October 15, 1956

Results of Dual-[illegible] Tests . . . p. 24

RAILWAY AGE

THE INDUSTRY'S WEEKLY NEWSMAGAZINE

CONTINUING IMPROVEMENT—

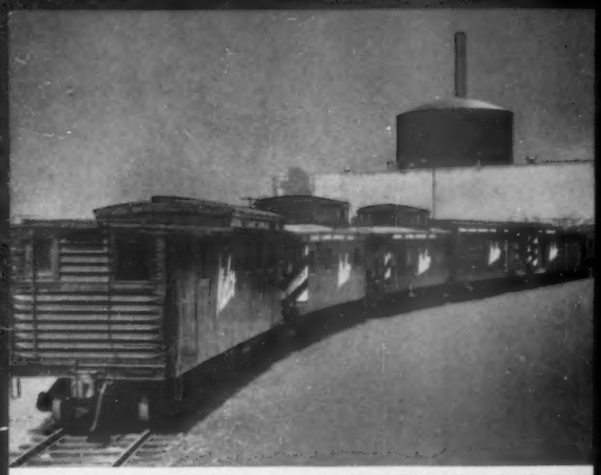
a never-ending program at Electro-Motive to make General Motors Locomotives better year by year —to give older General Motors Locomotives the benefits of present day design and material developments.

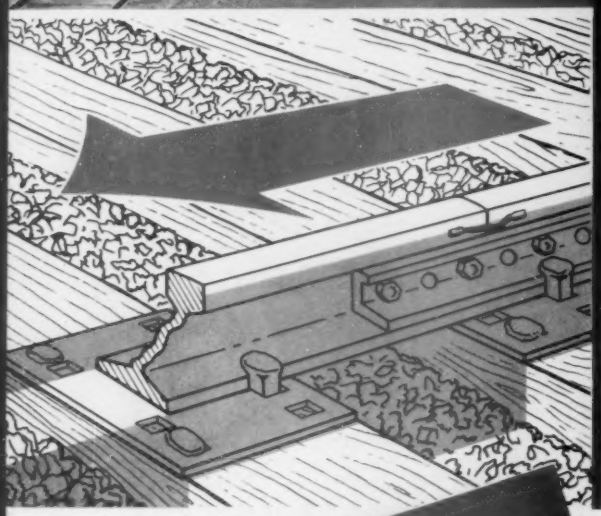
See the ELECTRO-MOTIVE PARTS PROGRESS PRESENTATION and REMANUFACTURE PRESENTATION when it comes to your railroad

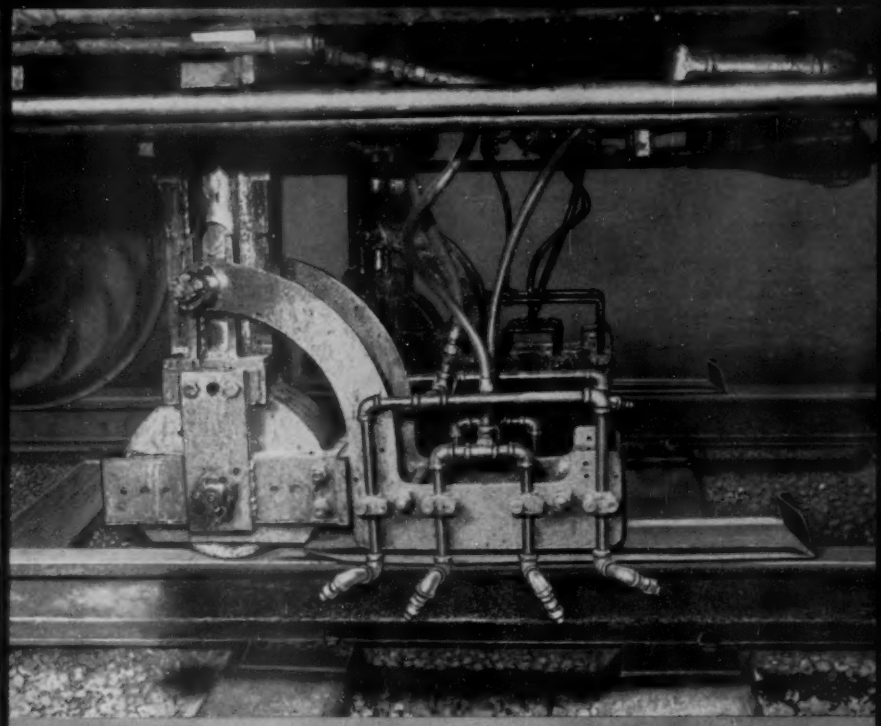
GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS

LA GRANGE, ILLINOIS • *HOME OF THE DIESEL LOCOMOTIVE*
In Canada: General Motors Diesel, Ltd., London, Ontario







● (Top) *Nalcote* Spray Cars operate at front of work train, with expert crew in charge. You furnish only the work train and crew.

● (Left) Arrow shows direction of *Nalcote* Spray Car travel. Coverage of both receding and approaching surfaces is complete.

● (Above) Unique control devices assure complete, uniform *Nalcote* coverage regardless of variations in gauge and elevation. Shield protects running surface of rail.

Nalcote SERVICE

Nalcote is the superior asphalt-base coating that really protects against corrosion.

●

Nalcote Spray Cars cover up to 140 miles per day.

●

Uniform spray pattern . . . from mid-point of outer edge of rail head to outer edge of tie plate.

STOPS CORROSION of RAIL and FASTENINGS

Here is how you can gain real protection for the large investment your road has in rail and rail fastenings. Schedule now for the fast, efficient—and economical *Nalcote* anti-corrosion treatment!

Aboard *Nalcote* Spray Cars equipped with precision spray machines, experienced operators spread the tough, long-lasting *Nalcote* on rail, tie plates, spikes, bolt heads, angle bars and anchors.

All this at a cost that varies little from the cost of manually painting angle bars alone.

If you would like further information—and an early application date, call your Nalco Representative or write direct.

NATIONAL ALUMINATE CORPORATION
SPRAY SERVICES DEPARTMENT

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ANOTHER *Nalco*®

SERVICE . Serving Railroads through Practical Applied Science

WM
WESTERN MARYLAND RAILWAY

DeLuxe Ride for Old King Coal

When the Western Maryland recently put in service a huge fleet of triple-hopper cars, it meant a long forward step for this progressive railroad. They're beautiful cars, but what's more to the point, they're as modern as today. And they are designed to give efficient, low-cost service for years to come.

No question about it, the coal hauled in this fleet gets de luxe transportation.

Among the many advanced features is the roller-bearing running-gear, which includes Bethlehem forged axles and Bethlehem wrought-steel wheels. The wheels are multiple-wear—a significant point in itself. For these are wheels that are built for extra-heavy duty, extra-long service, like everything else in the cars.

Whether your own road prefers a multiple-wear wheel or the familiar one-wear type, the Bethlehem shops are well equipped to supply you. Bethlehem wrought-steel wheels—and Bethlehem forged axles—can be bought and installed with complete confidence; they meet every requirement of AAR standards. You can obtain complete details about these products from the nearest Bethlehem sales office.

BETHLEHEM STEEL

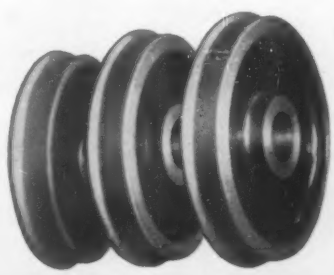
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

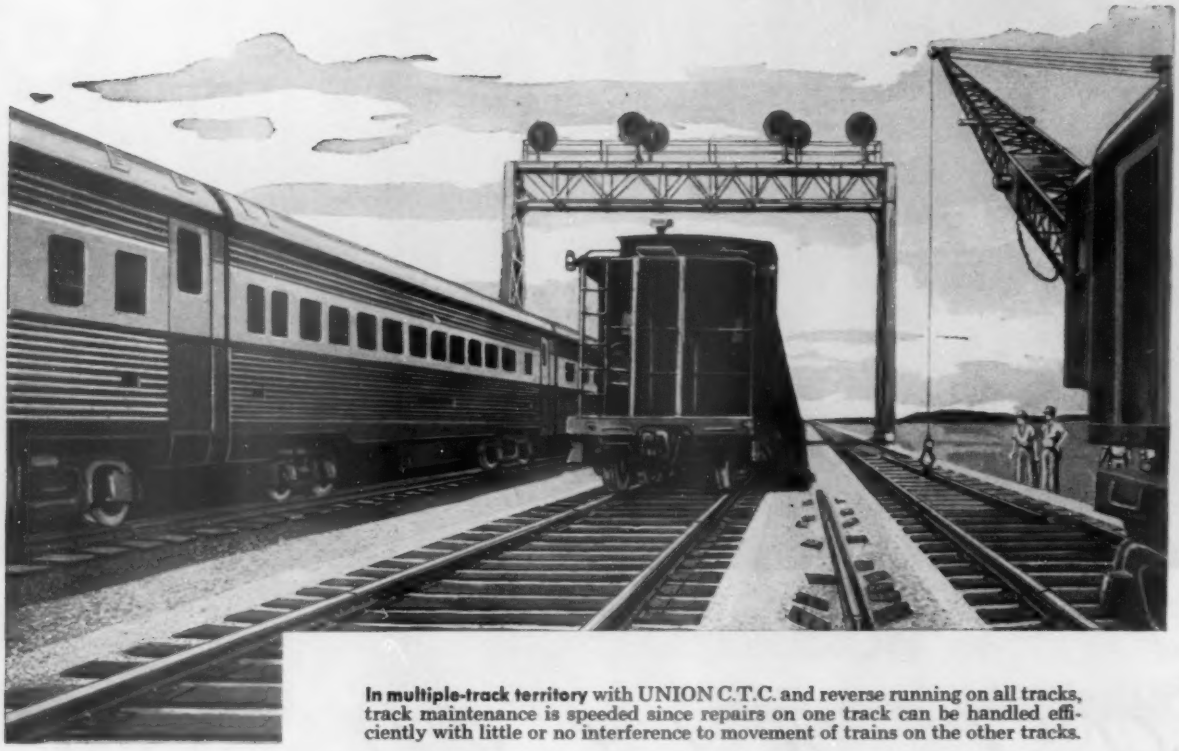
BETHLEHEM WROUGHT-STEEL WHEELS

COMPANIONS TO BETHLEHEM FORGED-STEEL AXLES

FREIGHT • PASSENGER • DIESEL



Why not C.T.C. for multiple track?



In multiple-track territory with UNION C.T.C. and reverse running on all tracks, track maintenance is speeded since repairs on one track can be handled efficiently with little or no interference to movement of trains on the other tracks.

Centralized Traffic Control has proved highly successful on single- and double-track lines, and more and more railroads are applying it to multiple-track operations where it promises even greater benefits.

For example, 3 tracks, all signaled for train operation in either direction and with centralized control of all interlockings, will have a capacity equal to or greater than 4 tracks where point to point interlocking control is used and each pair of tracks is signaled for train operation in one direction only.

You gain the advantage of extremely flexible operation when one track is blocked or out of service due to an emergency or to maintenance work. What's more, you completely eliminate the expense of 2 crossovers at each interlocking as well as the cost of maintaining a fourth track, and can use the rails and track materials in other locations.

Similarly, in 2-track territory, a layout with 2 crossovers at each interlocking, and with reverse running on both tracks, will have a much greater capacity than double-track territory with passing sidings and the tracks signaled for single direction running.

Union Switch & Signal is prepared to help you analyze your traffic control problems through a competent staff of traffic control engineers. Write or call our nearest office for complete information.

75 Years 1881 1956

OF EQUIPMENT AND SYSTEMS ENGINEERING .....

UNION SWITCH & SIGNAL

RAILWAY AGE

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SUBSCRIPTION TO RAILROAD EMPLOYEES ONLY IN U. S., U. S. POSSESSIONS, CANADA AND MEXICO, $4 ONE YEAR, $6 TWO YEARS, PAYABLE IN ADVANCE AND POSTAGE PAID. TO RAILROAD EMPLOYEES ELSEWHERE IN THE WESTERN HEMISPHERE, $10 A YEAR; IN OTHER COUNTRIES, $15 A YEAR—TWO-YEAR SUBSCRIPTIONS DOUBLE ONE-YEAR RATE. SINGLE COPIES 50c EXCEPT SPECIAL ISSUES. CONCERNING SUBSCRIPTIONS WRITE R. C. VAN NESS, CIRCULATION DIRECTOR, 30 CHURCH ST., NEW YORK 7.

Workbook of the Railways

Vol. 141, No. 17
October 15, 1956

CONTENTS and

Week at a Glance

Longer runs for the UP's gas turbines . . .

. . . are translated into more total mileage and a rising share of the UP freight traffic thanks to use of tenders with the fuel-hungry giants. Insulated tenders are converted steam units that give turbines nearly 1,500-mile range. . . . p.7

FORUM: What is competition . . .

. . . in transportation? The truckers would like to have you think in terms of competition in *service*, but that's because it's to their advantage not to have true competition in *rates*. If they could have their way in this respect, real competition soon would disappear altogether, because all the low-cost operators would be out of business. . . . p.23

Dual-fuel gives good results . . .

. . . in tests on the SP, with the result that that road now has 52 road freight diesels in regular service using residual type fuel under load and the more expensive distillate type for idling. . . . p.24

Switching in both directions . . .

. . . meets the Missouri Pacific's requirements best at Kansas City, and plans are ready for a new double-hump yard to do this job most efficiently. . . . p.28

Two-goal advertising . . .

. . . is the Central of Georgia's way of attracting new industries to locate on property on its lines while at the same time building cordial and cooperative relations with the communities it serves. . . . p.30

COMING: Next week . . .

. . . A study of the economics of plain bearings for freight cars.

BRIEFS

Union-shop case won't be reheard . . .

. . . by the United States Supreme Court. It denied rehearing petitions last week. The court decided the case last May,

"This Is Ridiculous"

Some customers get pretty ornery when the ticket agent can't confirm return accommodations quickly. They expect him to have an up-to-date communications setup that will bring a reply *fast.*

Are *your* communications up-to-date?

A full dial telephone network can be added to your present plant for a surprisingly small investment—simply by using wires you already own. Lenkurt Carrier Equipment can create, on existing wires, new communication channels for system-wide telephones and control equipment to make this service completely automatic, lightning-fast, 24 hours a day.

We'll be glad to work with you and your Communications Superintendent in planning a complete, integrated communications system to meet your needs. *Call or write* Automatic Electric Sales Corporation (HAymarket 1-4300), 1033 West Van Buren Street, Chicago 7, Illinois. *In Canada:* Automatic Electric Sales (Canada) Ltd., Toronto. *Offices in principal cities.*

AUTOMATIC ELECTRIC

Originators of the dial telephone • Pioneers in automatic control

GENERAL TELEPHONE SYSTEM

Current Statistics

Operating revenues, eight months	
1956	$6,954,232,982
1955	6,590,067,867
Operating expenses, eight months	
1956	$5,374,619,154
1955	4,968,039,671
Taxes eight months	
1956	$731,401,365
1955	719,134,174
Net railway operating income, eight months	
1956	$675,628,799
1955	732,614,139
Net income, estimated, eight months	
1956	$530,000,000
1955	579,000,000
Average price 20 railroad stocks	
October 9, 1956	97.50
October 11, 1955	88.55
Carloadings revenue freight	
Thirty-nine weeks, 1956	28,177,891
Thirty-nine weeks, 1955	27,927,372
Average daily freight car surplus	
Wk. ended Oct. 6, 1956	3,776
Wk. ended Oct. 8, 1955	5,610
Average daily freight car shortage	
Wk. ended Oct. 6, 1956	17,834
Wk. ended Oct. 8, 1955	20,073
Freight cars on order	
September 1, 1956	122,870
September 1, 1955	52,803
Freight cars delivered	
Eight months, 1956	43,897
Eight months, 1955	22,783
Average number railroad employees	
Mid-August 1956	1,036,854
Mid-August 1955	1,096,705

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE, ESTABLISHED IN 1856, INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA.

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Week at a Glance CONTINUED

ruling in effect that the Railway Labor Act's union-shop provision overrides state "right-to-work" laws as to employees covered by the act. The unsuccessful suit was brought by a group of Union Pacific employees who were not members of any union and did not desire to join.

Inland waterway traffic hit a new high . . .

. . . of 216 billion ton-miles in 1955, up 14 billion from the previous peak, which was 1953's 202 billion. These are Army figures which also show that the 1954 total was 173 billion ton-miles. Last year's 216 billion breaks down as follows: Great Lakes, 118.8 billion; Mississippi, 52 billion; Atlantic system, 27 billion; Gulf system, 13.8 billion; Pacific system, 4.7 billion.

Iron ore is moving the all-rail route again . . .

. . . from the Lake Superior mines to Chicago area steel mills. United States Steel is currently shipping 390,000 tons of high grade open hearth ore by rail, to help build up mill supplies. Meanwhile, Great Lakes ore carriers have announced plans to keep operating until December this year, to recoup tonnage lost during last summer's strike.

118 million domestic air passengers in 1970 . . .

. . . is the prediction of J. T. Pyle, acting Civil Aeronautics Administrator. That compares with 38 million in 1955. Of course the CAA, and the tax-supported facilities it administers, will grow in proportion. Electronic brains are expected to be added to the human brains this government agency uses to foster the transportation agency it "regulates."

Regulators cool to education . . .

. . . The lag in personnel training programs by all transportation industries is due in part to regulation, T. C. Drinkwater, president of Western Air Lines, told the recent meeting of the American Society of Traffic and Transportation. It is difficult to ask regulators to include the cost of extensive training programs in establishing rates and fares, he said.

Look for more truck line mergers . . .

. . . Many companies will be consolidated within the next 10 years. Several today are owned personally by the founders, and only about 17 Class I motor carriers are now publicly held.

Wear and tear of warm weather diesel shutdowns eliminated

with the

VAPOR WATCHMAN HEATER

Recent tests prove conclusively that it is "penny wise and pound foolish" to let diesel engine temperatures drop below operating level (140°) . . . In summer (72°), less than 15¢ a day keeps your diesel engines up to full operating temperature during an 8-hour layover. Cuts down engine wear, eliminates expansion changes, protects against "cold" starts. In winter weather, the Vapor Watchman Heater keeps engines warm and ready with a maximum of 1½ quarts of fuel per hour—compared to winter idling that uses over 3½ gallons of fuel an hour!

A Watchman Heater saves more than a tank car of fuel—per diesel engine—a year . . . Provides protection that insures freedom against water leaks, dilution of lubricating oil, wear on cylinders, moisture collecting on the engine block and in the combustion chamber.

The solution: no need to idle engines. It's cheaper and more efficient to keep engine temperature at 140°, automatically, with the Vapor Watchman Heater. When the engine starts, it's warm, expanded and rarin' to go! At 65° outside temperature this costs only a little over two cents an hour.

Write for bulletin No. 588 for full information.

VAPOR HEATING CORPORATION

80 East Jackson Boulevard • Chicago 4, Illinois

Offices in principal cities

UP's Gas Turbines Paying Off

The Union Pacific's "Geetels" are running up to 800 miles farther and operating about 30% more miles these days than they did when 4½ years ago they were first introduced in the rugged western territory they serve. And they are hauling some 10% of the UP's freight traffic.

The UP has 25 of the 4,500-hp "Geetels" (gas turbine-electric locomotives or GTELs) operating in heavy main line service between Ogden, Utah, and Omaha, 990 miles. They accounted for 8.6 billion gross ton miles of traffic last year. The UP has 15 additional 8,500-hp two-unit turbine-electrics on order from General Electric, with the announced intention of buying 30 more (Railway Age, Dec. 5, 1955, p. 64).

Longer runs without refueling are the key to the greater utilization of the turbine-electric power. Fuel tenders coupled to the locomotives to supplement the body tanks have cut fueling stops and enabled the UP to reduce its refueling facilities.

Determined to establish the reliability and economies of operating gas turbine power on long runs, the UP added a 24,000-gal tender to one of the GTEL units last November and put it into service between Omaha and Ogden. This was 507 miles farther than the then-standard Ogden-Cheyenne run and 814 miles farther than the original Ogden-Green River, Wyo., run. From November through last June, this unit averaged 12,434 miles a month —some 3,000 miles per month more than the average unit made in the Ogden-Cheyenne service.

Encouraged by its test results, the UP set out to convert 24 more 20,000-gal tenders for use with the rest of its GTEL fleet—having already planned to use tenders with the 15 bigger locomotives it ordered last year.

Refueling for the GTELs is handled primarily at Ogden and Cheyenne because of their proximity to sources of gas turbine fuels and because the bulk of their operations are still in the Ogden-Cheyenne area. Through trains, however, run as far as Omaha and Kansas City. A unit equipped with a tender can operate

LONGER RUNS are made possible with converted steam tenders like this one.

from Ogden to Omaha and back as far as Cheyenne (nearly 1,500 miles), without refueling.

The tenders are converted steam locomotive units turned out of the UP's Omaha shops. Fuel flow is from the tender to the 7,200-gal locomotive body tanks and thence to the turbine—keeping maximum weight on the drivers as the fuel is depleted. To keep the heavy oil warm enough to flow easily, the present tenders have been insulated, while those for the new locomotives will have also 100 KW electric heaters run off current from the locomotives' auxiliary diesel engines.

Operating dependability and reliability have become increasingly important as the turbine electrics' ranges have been expanded, moving them farther from "home" and keeping them away for longer periods of time. Checking all angles of operation, the UP found that the GTELs were making faster speeds. Train operation was said to be smoother, and break-in-twos have been rare.

Comparative maintenance costs of the "Geetels" operating in similar service as diesel-electric units have not been revealed but it is believed that they are well in line. In announcing its order for the larger turbine-electrics, the UP said they should "have less mechanical repair cost than 7,000-hp diesel-electric units," suggesting, perhaps, favorable experience with repair problems and costs on the present, smaller GTELs.

Fuel costs average higher on the turbines than for the diesels when terminal idling time is included, but improved operating practices are said to have reduced this difference, and decreased maintenance costs tend to offset this dollar loss. Fuel consumption on all 25 units since the first one entered service in February 1952 has averaged about 4.7 gallons per 1,000 gross ton miles.

Life of both the stationary blades and the rotating "buckets" has ranged from 6,000 to over 10,000 hours and the road reports parts repair and replacement have been cut. Principal troubles reported have been with the auxiliaries and at least half the failures have been electrical.

Experience indicates that the principal fueling headaches encountered —filtering, viscosity and the nature and quantity of ash formed—are mainly problems of fuel control rather than of turbine design. At some points straight residual is blended with the standard treated gas turbine fuel. The principal difference in turbine fuels compared with diesel fuel is that a higher sulphur content is tolerable.

It is felt in some quarters that here, in the matter of fueling, lies the future of the turbine-electric on the railroads, the attitude being that it has already proved itself as to operating and train handling functions.

Remarks by W. R. Mitchell, Jr., of the General Electric locomotive sales section, at the recent meeting *(Continued on page 10)*

Schmidt to Head B&O Public Relations

William H. Schmidt, Jr., executive editor of Railway Age—and of Simmons-Boardman's other railway publications, is resigning, effective November 1, to become director of public relations of the Baltimore & Ohio. He will be succeeded in the executive editorship by Joe W. Kizzia, at present Railway Age's western editor.

This is not the first time Railway Age has thus been honored by a major railroad—by being looked to as a source of personnel for important railroad positions. The head of the passenger service research for the New York Central, Jack Gallagher, is a Railway Age alumnus. So is Arthur Cox, who handles public relations for the Pennsylvania in the Cincinnati area. Neal D. Howard, executive secretary of the American Railway Engineering Association, was our engineering editor at the time of his election to his present position; and his predecessor at the AREA, Walter Lacher, also came from our editorial organization. Another of our alumni, Charley Robinson, is superintendent of car service of the Monon.

Bill Schmidt, who is 42, has spent practically his entire business career on the editorial staff of Railway Age—except for a 3-year period of military service. When he came with us he was teaching at Rutgers University, and was doing his best to get into some kind of railroad work—since railroading was his chosen field. He has worked night and day at informing himself about the industry for almost two decades and has attained great proficiency as a source and purveyor of information—both as a speaker and as a writer. There is every reason to expect that his career as a railroad public relations officer will be as distinguished as it has been in railroad journalism.

Joe Kizzia (rhymes with Uriah), is an Arkansan by birth and is in his early thirties. He learned his railroading with one of the railway operating battalions in service in Europe during the past war. After the war was over, he went to Northwestern University's School of Journalism—where he was graduated in 1949. He was editor of a small town newspaper in Arkansas for a brief period, following graduation, at which time he made application for employment on Railway Age —which he judged to be the ideal place for him to combine his two great interests, railroading and journalism. He has been with us since 1949 —first in Washington and then in Chicago—where for the past year he has been our western editor.

We hate to lose you, Bill, but we wish you all the luck in the world. Joe and the rest of us will carry on with the same devotion to the industry and to the progress that effective journalism contributes to it, that you have so well exemplified.—J.G.L.

William H. Schmidt, Jr.

Joe W. Kizzia

RAILWAY MARKET OUTLOOK THIS WEEK

a RAILWAY AGE Workbook Page

Carloadings Down.—Loadings of revenue freight in the week ended October 6 totaled 815,004 cars, the Association of American Railroads announced on October 11. This was a decrease of 16,434 cars, or 2%, compared with the previous week; an increase of 13,445 cars, or 1.7%, compared with the corresponding week last year; and an increase of 112,094 cars, or 15.9%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended September 29 totaled 831,438 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, September 29

District	1956	1955	1954
Eastern	133,096	125,824	113,794
Allegheny	158,097	158,385	127,501
Pocahontas	64,973	62,714	51,264
Southern	131,776	130,485	126,348
Northwestern	143,507	145,636	113,066
Central Western	136,922	131,603	130,142
Southwestern	63,065	60,888	59,528
Total Western Districts	343,494	338,127	382,736
Total All Roads	831,438	815,535	721,643
Commodities:			
Grain and grain products	58,293	55,766	54,920
Livestock	13,355	12,461	14,009
Coal	145,432	134,504	121,447
Coke	12,253	13,272	8,467
Forest Products	44,160	47,388	45,868
Ore	91,806	86,457	53,621
Merchandise l.c.l.	63,101	66,636	65,266
Miscellaneous	403,015	398,653	358,043
September 29	831,438	815,535	721,643
September 22	822,255	813,720	710,215
September 15	820,666	817,234	711,228
September 8	679,611	701,992	601,525
September 1	784,366	789,722	688,492
Cumulative total, 39 weeks	28,177,891	27,927,372	25,275,120

In Canada.—Carloadings for the seven-day period ended September 21 totaled 96,305 cars, compared with 98,037 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
September 21, 1956	96,305	33,149
September 21, 1955	89,069	32,286
Cumulative Totals:		
September 21, 1956	3,203,647	1,261,176
September 21, 1955	2,889,846	1,172,028

New Equipment

FREIGHT-TRAIN CARS

► *Repair Ratio Hurt by Steel Strike.*—Limited steel supplies and other effects of last summer's steel strike were largely responsible for Class I roads' car repair ratio climbing to 4.5% on August 1 from low point of 3.9% on July 1; August 1 figure, reported by AAR, was highest since March 1, but still was 1.1% under August 1, 1955 ratio.

	Aug. 1, 1956	Aug. 1, 1955	Change
Ownership*	1,703,674	1,708,875	5,201 (d)
Waiting Repairs	77,490	96,399	18,909 (d)
Repair Ratio	4.5%	5.6%	1.1% (d)

*Excludes railroad-owned private refrigerator cars.

► *Cambria & Indiana.*—Ordered 200 70-ton hopper cars, Bethlehem Steel; estimated cost $1,750,000; delivery expected first half 1957.

► *Central of Georgia.*—Ordered 250 70-ton covered hopper cars, Pullman-Standard; estimated cost $2,265,000; delivery scheduled for August 1957; road's intention to purchase this equipment was reported here in issue of October 1.

► *Jersey Central Lines.*—Ordered 50 70-ton covered hopper cars, AFC Industries; unit cost approximately $8,000; delivery scheduled to begin April 1957.

► *Kansas, Oklahoma & Gulf.*—Ordered five 70-ton insulated damage-free box cars, Pacific Car & Foundry; unit cost approximately $15,000; delivery scheduled for March 1957.

► *Northern Pacific.*—Ordered 100 covered hopper cars, ACF Industries; estimated cost $1,000,000; cars will be equipped with roller bearings; delivery scheduled for third quarter 1957.

LOCOMOTIVES

► *Steel Strike Cut Diesel's Use.*—Effect of last summer's steel strike on utilization of motive power is reflected in AAR report, summarized below, showing 219 serviceable diesel units stored on August 1, compared with only nine in that category on August 1, 1955.

	Owned or Leased August 1		Stored Serviceable August 1		Waiting Shops August 1	
	1956	1955	1956	1955	1956	1955
Diesel (A & B Units)	25,738	24,373	219	9	920	843
Steam (Locomotives)	4,489	7,047	687	1,079	740	1,228
Electric (Units)	607	666	8	15	80	90

► *Duluth, Missabe & Iron Range.*—Ordered 20 1,750-hp diesel-electric road switchers, Electro-Motive; cost $4,500,000; delivery scheduled to begin next spring.

► *Florida East Coast.*—Received court authority to purchase 10 1,750-hp general purpose diesel-electric units from Electro-Motive; approximate cost $1,780,000; delivery expected March or April next year. (*Continued on next page*)

RAILWAYS IN THE MARKET—THIS WEEK

CONTINUED

► *Norfolk & Western.*—Ordered 30 1,750-hp general purpose diesel-electric units, Electro-Motive; approximate cost $6,000,000; delivery of the units—to be used on N&W's Clinch Valley District between Bluefield, W. Va., and Norton, Va.—is expected to start next May.

PASSENGER-TRAIN CARS

► *Boston & Maine.*—Ordered 35 cars for transporting milk, General American; estimated cost $760,000; delivery expected early in third quarter 1957.

► *Canadian National.*—Ordered one rail diesel car (RDC-1), Budd; approximate cost $170,000; delivery scheduled for February 1957.

► *Delaware & Hudson.*—Ordered 25 baggage cars, ACF Industries; estimated unit cost $40,000; delivery expected third quarter 1957.

► *Northern Pacific.*—Ordered 10 baggage cars, Pullman-Standard; estimated unit cost $76,210; delivery expected to begin June 1957.

Purchases and Inventories

► *Seven Months' Purchases Up 5.9%*—Purchases by domestic railroads of all type of materials in first seven months of 1956 were $81,071,000, or 5.9%, above those for same period last year, according to following tables prepared by Railway Age research department:

PURCHASES*	July 1956	Seven Months 1956	Seven Months 1955
	(000)	(000)	(000)
Equipment**	$ 44,663	$ 297,449	$ 460,948
Rail	4,931	58,272	60,798
Crossties	8,998	49,260	30,723
Other Material	110,646	789,355	554,627
Total from Manufacturers	$169,238	$1,194,336	$1,107,096
Fuel	33,817	254,311	260,480
Grand Total	$203,055	$1,448,647	$1,367,576

*Subject to revision
**Estimated value of orders

INVENTORIES*†	July 1, 1956	July 1, 1955
	(000)	(000)
Rail	$ 53,786	$ 52,013
Crossties	86,745	92,878
Other Material	552,295	483,203
Scrap	22,758	19,372
Fuel	29,288	30,844
Total	$744,872	$678,310

*Subject to revision.
†All total inventory figures taken from ICC statement M-125 for month indicated.

New Facilities

► *Canadian National.*—Awarded contract for initial phase of construction of new 22-mi line to link Bartibog, N.B., with Heath Steele minesite in interior of province to Modern Construction, Ltd., Moncton; total estimated cost of new line—first to be built in the Maritimes in over 40 years—is about $3,000,000 (Railway Age, Sept. 3, p. 9).

(Continued from page 8)

of the Railway Fuel & Traveling Engineers in Chicago, sum up such thinking. He said in part:

"I believe we can safely observe that the gas turbine locomotive some time ago graduated out of the experimental phase and has earned itself a position of respect as a capable and reliable public servant. . . . It is a heavy-duty road locomotive. By no stretch of the imagination is it a general purpose locomotive, as we see it today. . . . I think, maybe some day we will have a successful way of burning coal in a gas turbine power plant. . . . All we are really interested in doing is adding heat. We are using oil; other people are trying to burn coal. It is possible we could somehow or other inject an atomic reactor to supply this heat. This is dreaming. . . . But it may be possible."

Supreme Court to Review Rock Island Trucking Case

The United States Supreme Court will review lower-court rulings which upheld an Interstate Commerce Commission order granting Rock Island Motor Transit Company, subsidiary of the Rock Island, unrestricted trucking rights. This was indicated by a court order noting probable jurisdiction in the case.

The commission gave Transit relief from the usual "tie-to-rails" restrictions on several routes where it found that independent truckers had failed to provide adequate service. The case was taken to the courts by American Trucking Associations and the Railway Labor Executives' Association.

It came up to the Supreme Court from the U. S. District Court for the District of Colorado, where the commission was upheld. That court ruled that the commission has authority to grant an unrestricted certificate to a railroad subsidiary, if there is a showing that public convenience and necessity require it.

ICC's Walrath Urges Steps To Limit Car Shortages

ICC Commissioner L. K. Walrath has urged the nation's shippers to cooperate with railroads and the commission in making more freight cars available to minimize shortages.

In a talk to the Southeast Shippers Advisory Board at Jacksonville, Fla., recently, Mr. Walrath lauded the advisory boards' efforts in emphasizing that shippers should:

"Order cars for loading only as and when needed; load promptly and try every time for that one-ton increase per car; unload promptly and unload clean; and, have billing ready to move the car when it is loaded—especially at week-end."

The commissioner said there had been "protests, delaying tactics, law suits and much pressure from some quarters" opposing the ICC's actions to expedite car movements. But he said, "no one, whether shipper or carrier, has the right to waste transportation."

Gould Is Chief of ICC's Court Enforcement Branch

Bernard A. Gould has been appointed chief of the Court Enforcement Branch of the ICC's Bureau of Inquiry and Compliance. He has been with the commission since 1936, and was regional attorney for the bureau at New York at the time of his appointment.

RR Earnings "Overstated" Up to 50%

Railroads are overstating their reported earnings by as much as 25% to 50%, Leonard Spacek, managing partner of Arthur Andersen & Co., charged at a recent Commerce and Industry luncheon in Chicago.

These overstated earnings result from application of accepted accounting principles to the federal income tax law on accelerated and five-year amortization, he said.

"The new tax law provides a simple formula by which the government defers payment of federal income taxes to a future time," Mr. Spacek declared. But, he said, railroads are allowing their income to be increased by the full amount of these tax reductions.

Mr. Spacek assailed the ICC's accounting standards as lagging behind up to-date accounting practices. He said it would take a "catastrophe" to blast out the old-fashioned principles "frozen" into railroad accounting by federal law. As an example of laggard accounting practice he said that when 90-lb rail is replaced by 115-lb rail, the cost equivalent of the smaller rail is charged to maintenance and the difference is capitalized.

But when an electric company replaces a 60-ft pole with an 80-ft pole, the cost of the whole new pole is capitalized, he added.

Continuing, he said that when labor and material costs reflect current prices while depreciation is tied to prices in earlier years, the effect is to overstate today's profits beyond what they actually are.

NYC Ends "Aerotrain" Tests

"Aerotrain," the new lightweight train operated by the New York Central during the last six months, will end its experimental runs between Cleveland and Chicago October 27. The equipment will move to another road for testing.

The Central has operated its "Aerotrain" under a short-term leasing arrangement with General Motors Corporation, which owns the equipment. The train began service on the Central April 24, between Chicago and Detroit, non-stop. Since July 15, it has been running between Chicago and Cleveland on a daily round-trip, multi-stop, express schedule. In each instance, the train ran under a specially controlled schedule, so it could be tested under varying conditions.

While no conclusive decisions have yet been reached, the Central has learned from its public opinion surveys during the train's runs between Chicago and Detroit that passengers seem to be enthusiastic about the train's decor, tinted windows and air-conditioning. Passengers have suggested improvements should be worked out to achieve a smoother and quieter ride.

Results of the "Aerotrain" survey will be integrated into the Central's overall research project now going on to discover ways of making passenger service more profitable.

Last trip for the NYC's "Aerotrain" from Chicago to Cleveland will be October 26. The last westbound trip from Cleveland will be October 27. A conventional train will make the eastbound return trip

Milwaukee Builds $5 Million Freight Yard

This aerial view shows the Milwaukee's new automatic retarder freight yard opened recently in St. Paul, Minn. The new $5 million hump yard, first of its kind in the Twin Cities area, is the third built on the Milwaukee in a little more than four years. The yard has 35 classification tracks with a capacity of 1,692 cars, plus seven receiving tracks and six departure tracks.

out of Chicago on the evening of October 27 at the scheduled hour of the "Aerotrain's" departure.

The Pennsylvania, which also operates an "Aerotrain" under lease, has extended the lease to April 29, 1957.

Meanwhile the Central said last week that if all its applications to various state agencies for permission to curtail or abandon certain passenger services are granted, NYC passenger operation would be cut by nearly 800,000 train-miles a year. That would be less than 3% of the road's annual train-miles.

Rail Traffic Seen Up 41% By 1965

"Year after year railroads will be called upon to handle more and more freight traffic. By 1965, they should be prepared to handle 41% more ton miles than they did in 1955," Holcombe Parkes, president of the Railway Progress Institute, told the Western Railway Club in Chicago last week.

This estimate is not based on radical technological changes in rail transport; in the character of regulation; or in the laws pertaining to transportation, Mr. Parkes explained. It is supported "by valid correlations between accepted yardsticks of national activity and a conservative analysis of how much of the total carrying job each agency of transport will do . . . taking into account all of the factors with which each agency will have to contend."

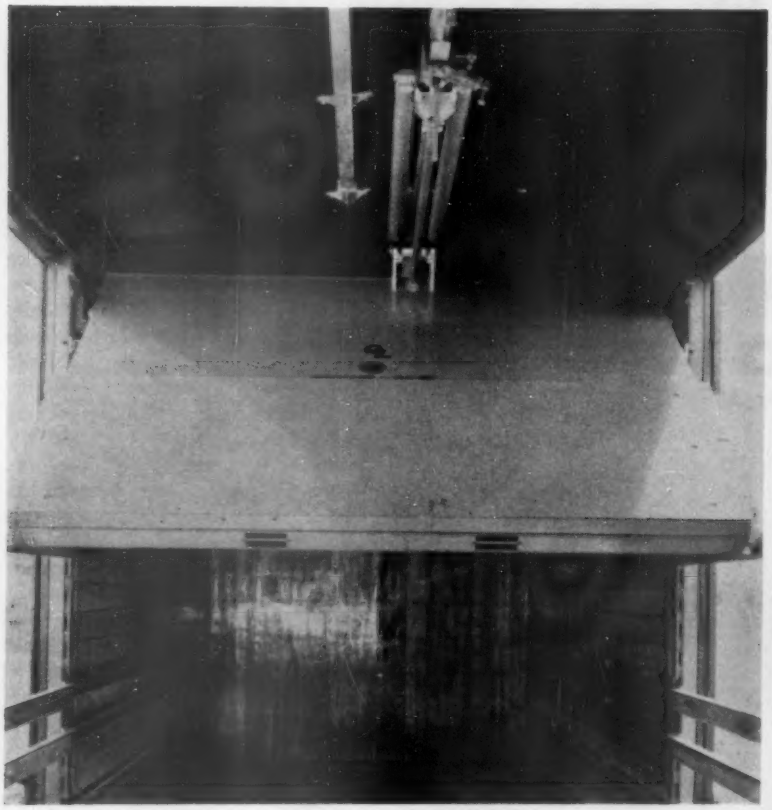
Mr. Parkes explained that an RPI research project on the railroads' prospects in the next 10 years has been completed. It will be made public in detail at the RPI's annual dinner in New York November 15. "What man in his right mind could be a pessimist about the future of his business when he is faced with a 41% increase in volume in the next 10 years?" Mr. Parkes asked. "The railroads today are five times more efficient in manpower and productivity than their competitors on the highways."

The RPI's research project, he said, has been searching for the answers to the following questions:

How much freight and passenger traffic will railroads and other agencies of transport be called upon to handle within the next 10 years?

What will be the effect on rail volume of "highway constipation"; time lag in building new super-highways; highway speeds; the potential of piggyback; the influence of taxes and tolls, wages and working conditions in highway transport; the growth of air cargo, pipeline and water transportation?

What power, equipment and facilities will the railroads need to handle this predicted volume of freight and passenger traffic? What is the existing potential reserve capacity in the railroad plant?



New Load-Locking Device to Reduce Lading Damage

The "Quick-Loader," a new partitioning and load-locking device for box cars, designed primarily to reduce damage in moderate weight ladings, has been unveiled by the Evans Products Company. The device has a spring-locking bulkhead system which can be easily operated by one man. Its two bulkheads permit dividing the load into three sections at any one-inch location throughout the car. When not in use, the "Quick-Loader" bulkheads are spring hoisted to metal tracks overhead.

Regional Body to Pay NY Commuter Losses Urged

Erie President Paul W. Johnston proposed last week that New York's commuter problem be solved by creation of a "regional authority" that would "collect all the revenue, pay all the expenses" and reimburse railroads for out-of pocket costs at no profit to them.

He told the Bergen County (N. J.) Chamber of Commerce on October 8 that any deficits should be "absorbed by the authority" and charged in part "against the communities benefiting from the service."

Mr. Johnston later joined Presidents P. M. Shoemaker and R. E. Sease of the Lackawanna and Susquehanna, respectively, at a meeting of the North Jersey Traffic Club in Paterson, in assailing New Jersey's railroad taxes. The taxes amount, Mr. Johnston said, to "virtual confiscation." Mr. Shoemaker said tax

relief is vital to the railroads but would constitute "no serious burden to the state."

771 Officers Were Paid $20,000 or More in 1955

Class I railroads paid annual salaries and other compensation of $20,000 or more to 771 officers in 1955. The total paid the group was $25,334,191, and the average per officer was $32,859.

This was shown by a report (Statement No. 5619) of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. Comparative figures showed that 707 officers were in the $20,000-or-over group in 1954, and that their average compensation was $6 less—$32,853.

All but 83 of the 1955 salaries above $20,000 were less than $50,000, and 296 of them were less than $25,000. In the $25,000-to-$29,999 group, there were 167, while 139 were in the $30,000-to-$39,999 group, and 76 were between $40,000 and $50,000.

9 Roads Paid September Fines Totaling $3,600

Nine railroads in September paid fines totaling $3,600, plus costs, on 36 counts of violating the Safety Appliance Acts and the Signal Inspection Law.

This was reported by the ICC, which also reported that the largest amount, $1,700, was paid by the Missouri Pacific for 17 violations of the Safety Appliance Acts. Next came $500 payments, for like violations, made by the Southern Pacific and the Chicago & North Western.

Wisconsin Fuel Tax Is "Subsidy to Truckers"

A two cent per gallon fuel tax voted by the 1955 Wisconsin legislature is "the greatest possible subsidy the legislature could have given to operators of heavy trucks," Amos M. Mathews, general solicitor, Association of Western Railways, told the Brotherhood of Railroad Trainmen's Wisconsin state convention.

To allow the present motor vehicle tax structure to remain in its present form "is to perpetuate a fraud upon operators of light trucks and automobiles in favor of heavy truck owners," Mr. Mathews said. Every Wisconsin automobile owner pays five times as much in taxes, on the basis of each ton of vehicle weight driven one mile, as the owners of heavy trucks, he continued.

Net effect of the fuel tax increase was to boost truck taxes 15% and automobile taxes 33 1/3%. "Wisconsin either ought to reduce its motor fuel taxes or adopt supplementary taxes applicable to the heavy trucks in order to equalize tax payments between autos and big trucks," Mr. Matthews suggested.

Opening of Northwestern U. Transportation Center

Railroads were well represented at ceremonies opening Northwestern University's new Transportation Center October 5 (Railway Age, July 9, p. 13) Participants (above, left to right), included: Fred Gurley, president, Santa Fe, and chairman of the center's advisory committee; Ralph Budd, former president of the Burlington, and member of the center's advisory committee; William T. Faricy, president, AAR; Wayne A. Johnston, president, Illinois Central, member of the advisory committee; Downing Jenks, president, Rock Island, member of the advisory committee; Stanley Berge, professor of transportation, Northwestern University; and Franklin B. Kreml, director of the Transportation Center. The center's study program will concentrate on inter-relationships between rail, motor, air and water transportation; broad matters of public policy; economics and regulation; and new methods of transportation. The program is to be offered at three levels—undergraduate, graduate, and in-service. The first 10-week in-service course, designed to give junior and middle management already in the transportation industry a broad understanding of the industry's role in the national economy, will begin next January 7.

Air Lines Get Most Defense Trip Money

The Department of Defense paid commercial air lines nearly $15 million more than it paid railroads and the Pullman Company for passenger service during the fiscal year ended last June 30.

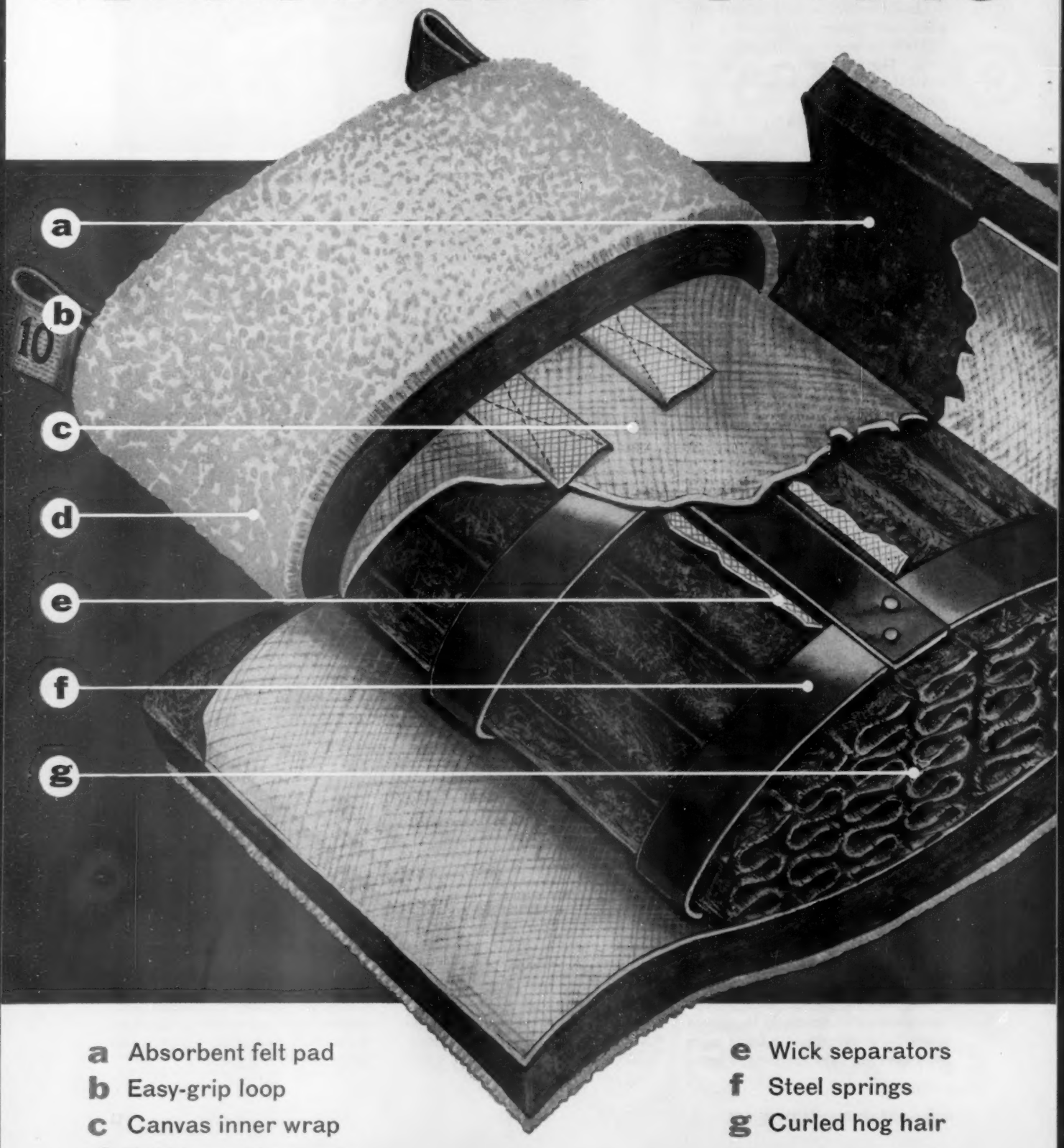
Figures made available by the department show that $102,816,717 was spent for passenger travel during the fiscal year, and that $54,509,745 of it was paid to air lines. Railroads got $34,698,112, and the Pullman Company got $5,997,522, a total of $40,695,634. Bus lines got $7,611,338.

Traffic data showed that railroads performed more passenger-miles for the department than did air lines—1,403,866,889, compared with 1,067,621,574. The rails also carried more passengers — 1,648,309, compared with 1,008,705. On the latter score, however, bus lines were tops, having carried 2,506,139 passengers, but they performed only 346,824,454 passenger-miles.

Average fare paid the railroads was 2.47 cents per passenger-mile, while an average of another 9.9 mills per passenger-mile was paid for nearly half of the rail travelers who used Pullman service. Average fare paid to air lines was 5.11 cents per passenger-mile, and buses got an average of 2.19 cents. Average journeys of rail, air and bus travelers, respectively, were 852 miles, 1,058 miles, and 546 miles.

See for yourself

EVERYTHING* IN THIS



a Absorbent felt pad
b Easy-grip loop
c Canvas inner wrap
d Wicking-action cover
e Wick separators
f Steel springs
g Curled hog hair

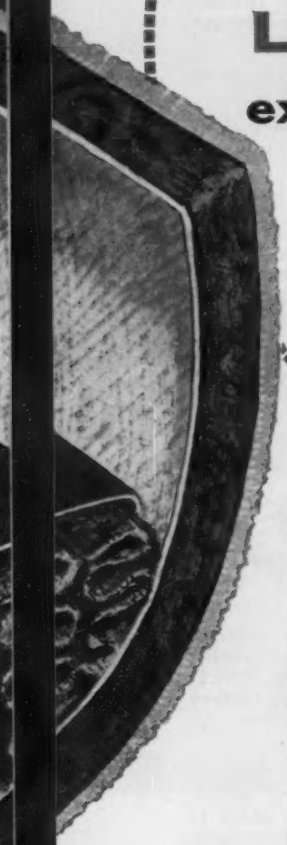
PAD FEEDS OIL...

new spring-action

SPRING-PAK LUBRICATION PAD

PATENTS PENDING

exerts constant pressure on the journal



**Everything except the spring steel, and even that helps!*

Yes . . . in this new Spring-Pak Lubrication Pad, the resilient, curled hog hair acts as a reservoir. . . . The long-lasting cotton pad—the high-quality felt—the wick separators . . . *all have remarkable capillary action . . . all feed oil continuously!*

The tough, cotton outer jacket has been especially selected for its high wicking action—will not glaze—is lint-free.

Flexible, loop handles make application or removal fast and easy. No special skill is required—there's *never* a need to "jack" the box.

Note the inner steel construction in the cut-away illustration. Regardless of temperature, these bands prohibit any possibility of the core collapsing. Made of highly resilient, spring steel, they assure constant pressure on the journal at all times.

Use it . . . re-use it. The new Spring-Pak Lubrication Pad can be easily cleaned in hot oil—has exceptional reclamation value.

SPRING PACKING CORPORATION has been in the journal box lubrication field since 1920. Our trained personnel are thoroughly experienced, always ready to be of service.

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Organizations

National Association of Shippers Advisory Boards.—Among the speakers at the annual meeting, to be held in the Ambassador Hotel, Los Angeles, October 16-18, will be Commissioner Owen Clarke of the ICC, William T. Faricy and Richard G. May, president and vice-president-operations and maintenance, respectively, of the AAR .

New York Financial Writers' Association.—This group's 15th annual dinner and show will be held Friday evening, November 16, in the Grand Ballroom of the Sheraton-Astor Hotel, New York City.

New York Railroad Club.—Methods and research will be the subject of discussion at a dinner meeting to be held in the Hotel Commodore, October 18. Officers and members of the Railway Systems and Procedures Association will discuss its activities in improving railroad operating and paperwork practices. The speakers include R. E. Hoyne, executive director, RSPA; T. F. Schaekel, manager, car service records, Pennsylvania; C. A. Strickland, manager, methods, research and procedures, B&O; B. E. Wynne, controller, Western Maryland; and J. W. Milliken, director research, Railway Age. The dinner will start at 7 p.m. and the meeting at 8:15 p.m.

Transportation Club of Peoria.—Will hold its 45th annual dinner in the Pere Marquette Hotel, Peoria, Ill., November 8. Guest speaker will be Dr. John H. Frederick, professor of transportation, University of Maryland.

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CHICAGO
300 modern newly decorated sleeping rooms from $4 single
NEWLY DECORATED
Advance reservations required
HAMILTON
11 meeting rooms accommodating 10 to 800 persons
For Reservations Write Samuel Leeds, Mgr. Dir., Box 100
NEW Hamilton Hotel
20 S. Dearborn St., Chicago

Financial

New York, Chicago & St. Louis.—*Buys More W&LE Stock.*—The Nickel Plate, which operates the Wheeling & Lake Erie under a 99-year lease, has purchased 22,810 shares of the latter's stock for about $3,000,000, bringing NKP holdings of W&LE stock to 80.6% of the total.

Dividends Declared

CAMDEN & BURLINGTON COUNTY.—75¢, semiannual, payable January 2, 1957 to holders of record December 14.

CLEVELAND & PITTSBURGH.—4% guaranteed, 50c, quarterly; 7% guaranteed, 87½c, quarterly; both payable December 1 to holders of record November 10.

DELAWARE.—$1, semiannual, payable January 2, 1957, to holders of record December 14.

ELMIRA & WILLIAMSPORT.—7% preferred, $1.65, semiannual, payable January 2, 1957, to holders of record December 20.

ERIE & PITTSBURGH.—guaranteed, 87½c, quarterly, payable December 10 to holders of record November 30.

MOBILE & BIRMINGHAM.—4% preferred, $2, semiannual, payable January 1, 1957, to holders of record December 1.

NORTHERN CENTRAL.—$2, semiannual, payable January 16, 1957, to holders of record December 31.

NORTHERN OF NEW HAMPSHIRE.—$1.50, quarterly, payable October 31 to holders of record October 11.

PHILADELPHIA, GERMANTOWN & NORRISTOWN.—$1.50, quarterly, payable December 4 to holders of record November 20.

PITTSBURGH, FT. WAYNE & CHICAGO.—common, $1.75, quarterly; 7% preferred, $1.75, quarterly; both payable January 2, 1957, to holders of record December 10.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, $1.75, quarterly, payable December 3 to holders of record November 20.

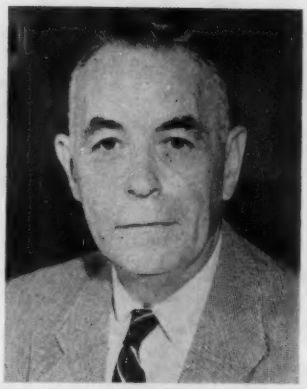
ROCHESTER & GENESSEE VALLEY.—$2, semiannual, payable January 2, 1957, to holders of record December 20.

WEST JERSEY & SEASHORE.—common, $1.50, semiannual, payable January 2, 1957, to holders of record December 14; 6% special guaranteed, $1.50, quarterly, payable December 3 to holders of record November 15.

Supply Trade

J. A. Holmes has been elected president of **National Aluminate Corporation.** Railway Age, Aug. 27, p. 13 erroneously reported that Mr. Holmes' former position was that of chief chemist.

William C. McCosh, manager of the central division of carbon products sales, **National Carbon Company,** at Chicago, has been named manager of railroad and industrial brush sales at New York.



EDGAR F. SHEEHAN, who has been made sales manager for all transportation products, Baldwin-Lima-Hamilton Corporation, Eddystone Division, was formerly manager of renewal parts.

Edwin B. Meissner, Jr., has been elected president and general manager of the **St. Louis Car Company** to succeed his late father. **Severin Merz,** has been elected executive vice-president.

Lamson Mobilift Corporation has appointed **Terminal Supply Company,** Cleveland, as northeastern railroad representative for the full line of industrial trucks.

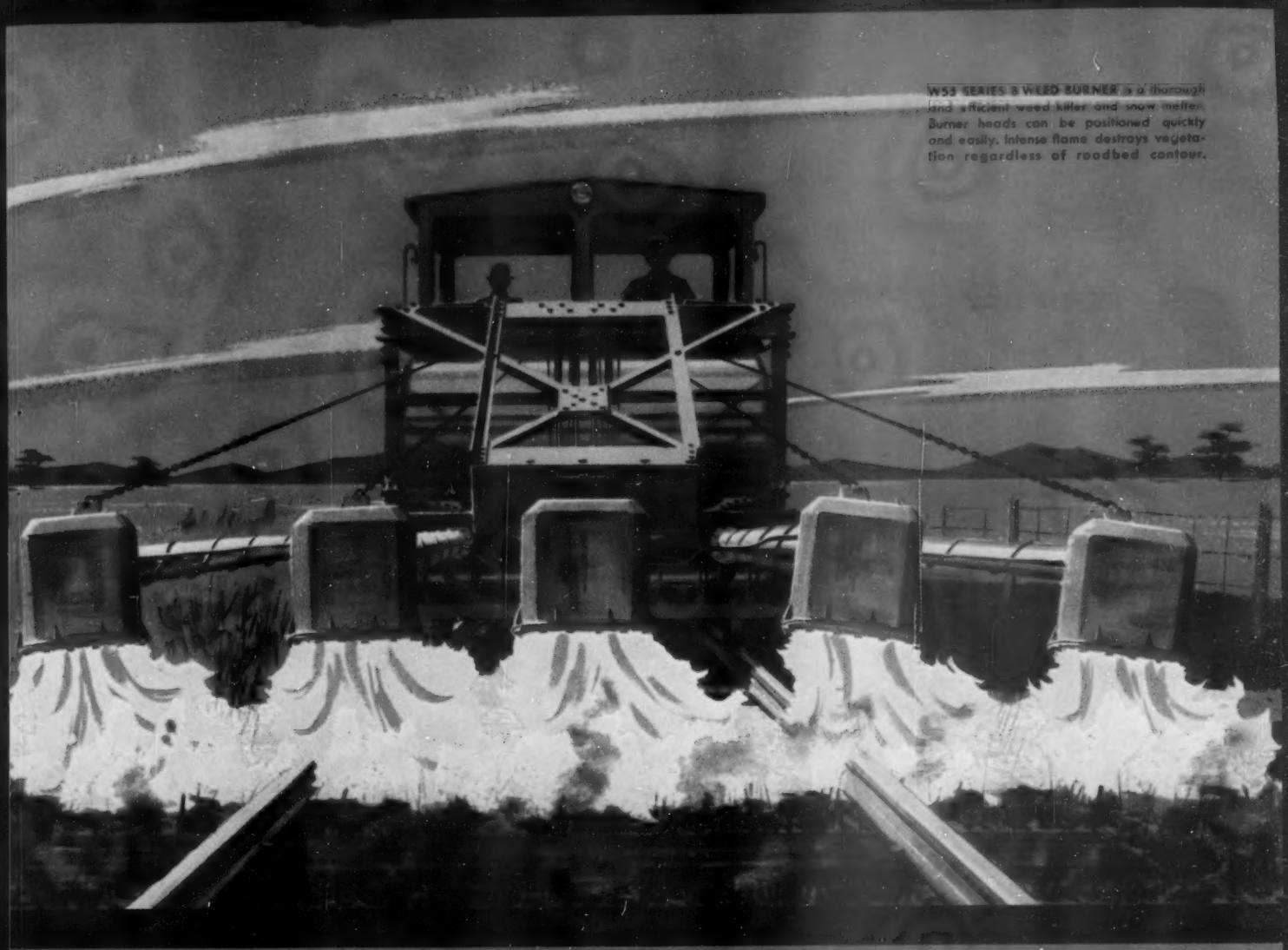
Alfred P. Emery has been appointed railroad sales manager of **John N. Thorp Company,** Brooklyn, and will supervise sale of Rust-Oleum protective coatings and Molub-Alloy to the railroad industry.

Douglas Wilson has been elected president of **Wilson Engineering Corporation,** succeeding the late **L. F. Wilson,** and **Robert W. Garvey** has been elected executive vice-president and general manager.

Ellis E. Walker, Jr., formerly assistant manager of special service, Boston & Maine, has been added to the railroad sales staff of **Hunt-Spiller Manufacturing Corporation.**

William R. Lindersmith, formerly of **Pacific Car & Foundry Company,** has been appointed manager of the San Francisco sales office of **Standard Railway Equipment Manufacturing Company,** succeeding **John H. Schroeder,** retired.

F. Dudley Lansdell, sales engineer in the Chicago area for Edison Storage Battery division of **Thomas A. Edison, Inc.,** has been appointed district manager at Chicago, and **Kenneth D. Mumbower,** Kansas City representative, has been named district manager at St. Louis.

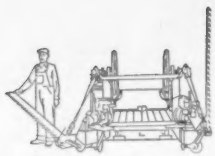


W55 SERIES B WEED BURNER is a thorough and efficient weed killer and snow melter. Burner heads can be positioned quickly and easily. Intense flame destroys vegetation regardless of roadbed contour.

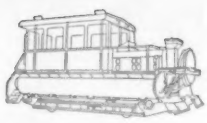
When you think of

WEED CONTROL

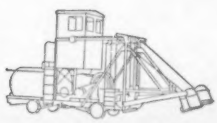
...think first of **Fairmont**



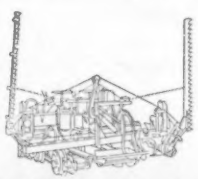
M5 SERIES A WEED MOWER provides fast, efficient cutting at minimum cost. An automatic cutter bar release, heavy-duty sickles and rugged, clutch-equipped engines highlight its performance characteristics.



W66 SERIES B WEED SPRAYER is a self-propelled unit fitted with two sets of differently sized nozzles which may be used together or separately. Minimum crew. Features three-speed, two-way drive with fluid coupling.



W44 SERIES D WEED BURNER is a tow unit designed for short lines and limited burning. Two outer burning arms are counterbalanced for easy operation. The entire unit can be operated and controlled from inside cab.



W24 SERIES A WEED MOWER features cutting bars which are hydraulically operated by an engine-driven pump. Sickles are driven by hydraulic motors. Safety snap-sickle design. Includes power grinder, turntable.

There is certainly no responsibility in roadbed maintenance that demands more constant attention than weed control. Yet, it is a problem that can be solved quickly and economically when you entrust the job to Fairmont sprayers, burners and mowers. There's a unit that is tailor-made for your needs—whatever your operation or budget requirements. Write to Fairmont for complete information on these and other Fairmont products. We'll be happy to recommend the *right* equipment for your specific problem.

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTFITS, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT.

Spokane, Portland and Seattle Railway reports more efficient utilization of motive power with ALCO MODERNIZATIONS

The Spokane, Portland and Seattle Railway operates 34 ALCO road freight units on its tracks in the Pacific Northwest. Because of the heavy service performed by these units, SP&S has taken advantage of ALCO modernization kits and parts to upgrade this motive power.

SP&S applied the modernizations as a package—locomotive by locomotive—during regular scheduled locomotive overhauls.

Here's what they have to say:

> *"Modernization of our 34 ALCO road freight units, extending over a period of eighteen months, has just been completed. This modernization program has resulted in more efficient utilization of these 34 road units. This program has up-dated the diesel engine from a 1946 model to the 1956 model by taking advantage of engineering improvements over the past ten years."*

Modernize your motive power, too. Make it better performing, more efficient. You can do it right in your own shop with ALCO's modernization kits. For detailed information, contact your nearest ALCO Sales Office or write P. O. Box 1065, Schenectady 1, New York.

ALCO

ALCO PRODUCTS, INC.

NEW YORK

Sales Offices in Principal Cities

AVAILABLE MODERNIZATIONS AND MODIFICATIONS

Listed below are a few of the important ALCO modernizations which can mean increased efficiency in your ALCO 244 engines:

ALCO water-cooled turbocharger — more efficient, responds rapidly to changes in speed and load, easy to maintain.

Ni-Resist exhaust manifold — reduces casting growth and failures.

High-pressure fuel injection with snubber valve — more complete fuel combustion, lube-oil condition improved, line erosion reduced.

Ni-Resist insert pistons — top ring-groove wear reduced, increases ring mileage.

Grooveless and partially grooved engine bearings — oil film thickness and load-carrying capacity increased.

Hardened, chrome-plated crankshaft.

Serrated cylinder blocks — eliminates fretting at joint surface of saddle and cap, prevents distortion and misalignment.

Oil-bath filter — maintains high efficiency over 95 per cent, reduced filter maintenance, reduces engine wear.

Simplified amplidyne control system — fewer parts in system with simpler circuits, maintenance reduced.

Series lube-oil system — available in either flexible or rigid piping, provides simplified and improved oil filtration and cooling.

With string of cars in tow, SwitchMobile heads down track. Switcher can roll 1,250 tons of freight from a dead start.

Crossing yard, SwitchMobile rolls over tracks. Big, low-pressure tires won't damage tracks, ties, or switches.

Switch engine on rubber

with "go-anywhere" off-track mobility

Here's an off-track switcher with locomotive power and features... a freight-spotter that travels along or across rail-lines . . . takes shortest route to job via right-of-way or highway.

This new, powerful, versatile, LeTourneau-Westinghouse SwitchMobile straddles or crosses tracks easily...won't damage switches or chamfer ties. Off-track, switcher crosses shoulders, ditches, blacktop, sidewalks, or fields.

SwitchMobile combines ample car-handling power with a new concept of shortest-route mobility. Its savings in time and equipment costs are already increasing income for owners.

36,000 ft-lbs. of rimpull

SwitchMobile's 208 hp diesel engine feeds power smoothly to four big, rubber-tired wheels which convert it to 36,000 pounds of rimpull. Machine starts 1,250 tons of rolling-freight.

With 6'3" width between big, low-pressure tires, unit straddles standard-gauge track. It rides on ties or ballast, rolls along over tie-ends, without damage to ties or tires.

60% vs 30% wheel friction

Rubber-tired SwitchMobile has twice the traction of comparable steel-wheel switchers. With four big 2' wide tires gripping ties or ballast, this 17½-ton unit develops a 60% coefficient of friction — *double* the 30% rating produced by steel wheels on steel rails!

SwitchMobile is *fast*. Operator hauls forward or reverse at rates to 16 mph. SwitchMobile can complete a switching job before a steel-wheeled switcher can maneuver into position!

Full visibility for operator

Inside SwitchMobile's roomy cab, operator has full 180° visibility, front or rear. Controls swing in half circle to either of 2 operator seats facing in opposite directions. Controls are regulation railroad type.

Built to ICC standards

This big, rubber-tired car-handler is a practical, tested railroad switcher — built according to ICC rules and recommendations. It features:

Twin couplers — Unit has standard AAR Type E couplers at front and rear. Couplers slide 35" either way for off-center pulling and pushing.

Twin air hose connections — Westinghouse air-brake system with hose connections at each end of SwitchMobile.

Two air reservoirs — A 33-cu. ft. compressor, connected with unit's power system, supplies two 10.5-cu. ft. reservoirs. One tank supplies all air compression needs — the other is a reserve pressure tank.

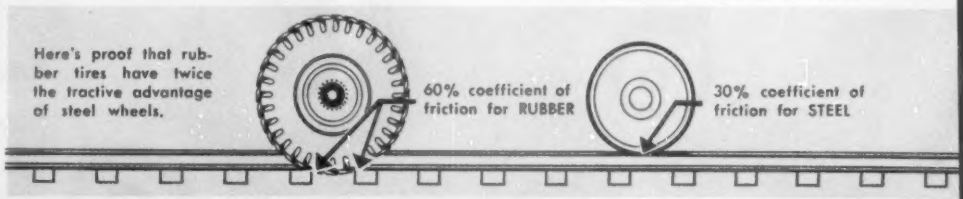
"Dead-man" controls — Transmission automatically shifts to neutral if operator takes foot off safety pedal.

Standard RR fittings — Outside, unit mounts standard RR fittings — hand rails and steps.

Get full details

Get complete specifications on the new money-saving go-anywhere SwitchMobile. Ask for more facts on how it speeds car-spotting for big cost savings.

SwitchMobile—Trademark SM-1140-RR-b

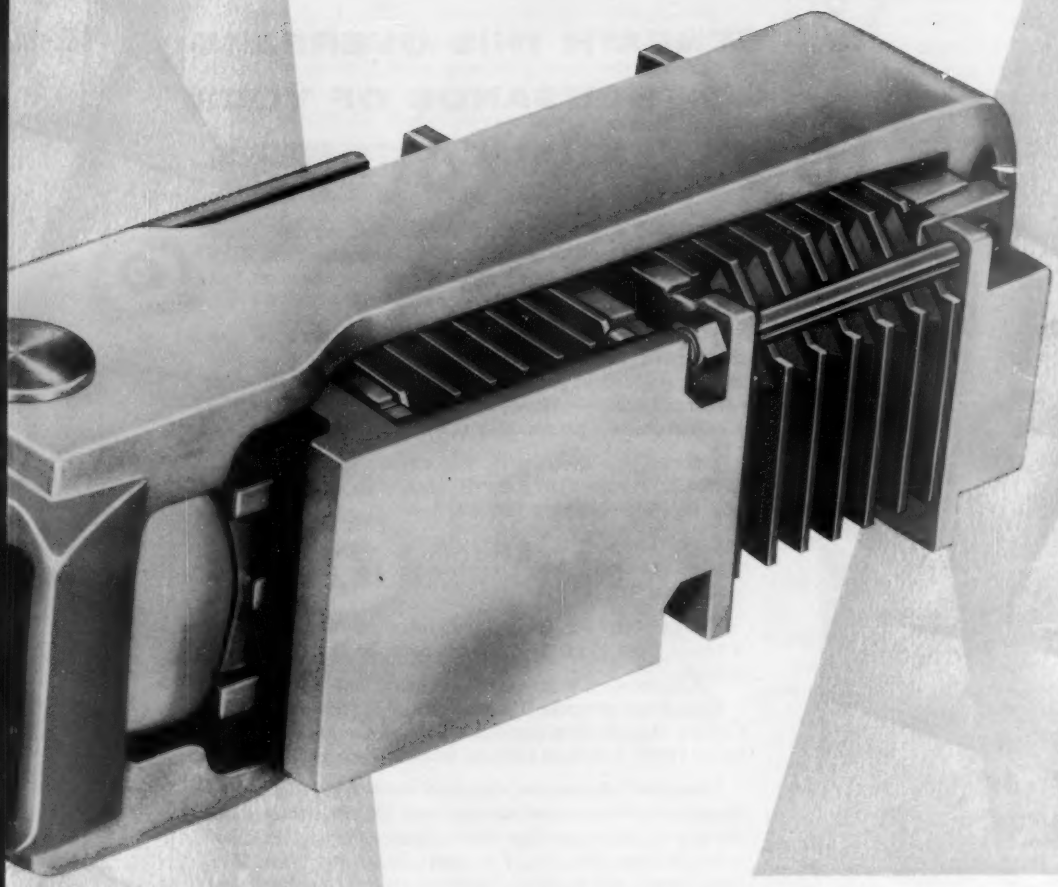

Here's proof that rubber tires have twice the tractive advantage of steel wheels.
60% coefficient of friction for RUBBER
30% coefficient of friction for STEEL

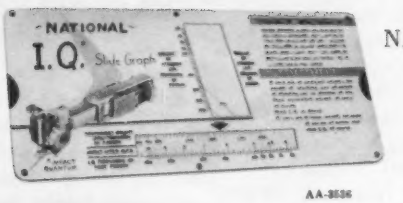
LeTourneau-WESTINGHOUSE Company
Railroad Sales Division; Peoria, Illinois
A Subsidiary of Westinghouse Air Brake Company

There's ***Improved Railroading with National Specialties***

REASON:

National's MF-400 Rubber-Cushioned Draft Gears have a rated capacity of 42,500 foot pounds, *plus* a reserve capacity 54 per cent greater than the rated — *65,500 foot-pounds!* This reserve capacity guarantees the original rated capacity at the original force level over a longer period of time than possible with gears that have definite solid points at their rated travel.





AA-3536

NATIONAL'S IQ SLIDE GRAPH

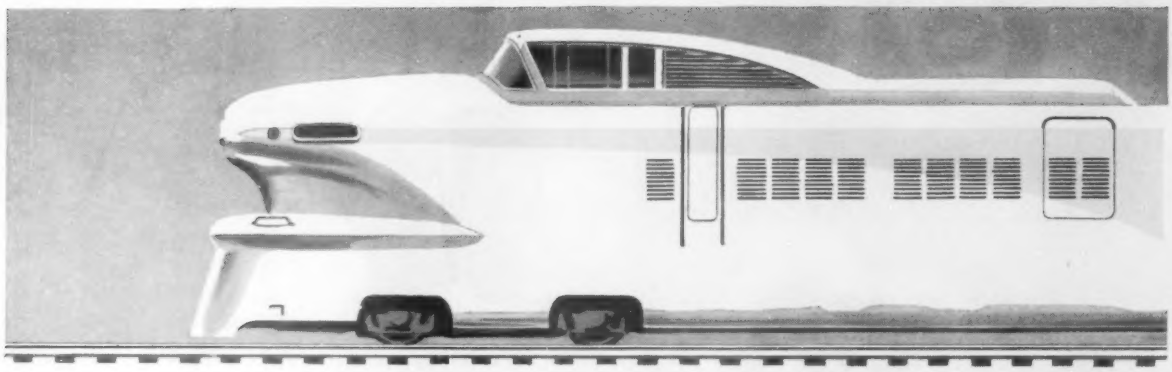
(Available upon request)

Shows total work done in foot-pounds during impacts between various cars at various speeds! Shows how much of this work National Draft Gears account for at various force levels! Points up need for high capacity in draft gears!

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

Established 1868 *Cleveland 6, Ohio*

COUPLERS
YOKES
DRAFT GEARS
FREIGHT TRUCKS
SNUBBER PACKAGES
JOURNAL BOXES



BENEATH THIS OVERPASS GO THOUSANDS OF YOUR POTENTIAL CUSTOMERS

Beneath it! That's where the competition travels. These "between-city motorists" are your biggest competitors. They ride 500 billion passenger miles a year—on the road, not on the roadbed.

Now alert railroad management is luring them back with the popular Hertz Rail-Auto Travel Plan. This plan, pioneered by Hertz to get the motorist back on the right track —railroad tracks—offers him swift, comfortable rail travel *plus* that car he wants waiting at his destination.

You can help promote it, help move traffic back to the railroads. Try the Plan yourself, observe its attractions and you, too, will become a personal booster.

Every time your ticket agents sell a ticket, urge them to ask this question: "*May I reserve a Hertz car for you at your destination?*"

The railroads win friends and customers, and agents get a bonus from Hertz: 10% commission on the total rental charges.

Help Hertz promote Rail-Auto travel in your advertising. Call on them for free displays, signs and literature. Capitalize on Hertz' own huge national Rail-Auto travel promotion.

Interested? Remember, Hertz is the world's oldest and largest car rental system, serving over 700 cities throughout the world. Hertz provides sparkling new Powerglide Chevrolets or other fine cars. For Hertz Rail-Auto Travel Plan facts, forms, and promotional materials call or write: Hertz Rent A Car, 218 South Wabash Avenue, Chicago 4, Illinois.

More people by far...use

HERTZ

Rent a car

Competition—What Is It Anyhow?

The American Trucking Associations are advocates of competition in transportation. At any rate, that's what the reader would infer from skimming over only the big type and the first paragraph or two of their recent advertisement in one of the weekly news magazines.

A little further along, in smaller type, the reader discovers that, after all, the leopard has not changed his spots. The truckers approve of "service competition," but they shy away from freedom of competition when it comes to rates.

Custom-Tailored Service

This "service competition" is a fine slogan—for the truckers. The truck people are the custom tailors of the transportation business—small quantities handled to fit the detailed convenience of the shipper and consignee. This hand-tailored transportation service is, on the average, an expensive service. No railroad could afford to "pull" an industrial siding ten times a day, taking out only one car per trip. But it costs no more for a trucker to load and dispatch one truck an hour for ten hours than it does for him to send out ten trucks simultaneously.

The principal "inherent advantage" of truck transportation is the ease with which it can be adapted to the needs of the individual patron. The inherent *disadvantage* of the truck is that, for a large quantity of freight, its service costs are several times as much as those of a freight train.

If the regulatory authorities observe the congressional mandate to preserve the "inherent advantages" of each form of transportation, then they will not forbid the truck operator to give faster door-to-door service than the railroad usually can give. By the same token, they will not deny the railroad the right to charge a lower rate for a service which is much less costly to produce than truck transportation.

When carried on between entirely different forms of transportation, so-called service competition (excluding competition in rates) is not competition at all. It is merely a device for making a sitting duck out of the competitor whose principal or only advantage is his lower cost of operation.

If the air freight people ever get to competing seriously with the truckers, then the truckers will very quickly acquire an understanding of the true meaning of "service competition." When and if the truck operators are not permitted to charge less for hauling a ton of freight across the continent in 6 days than air freight operators charge for making the same haul in 12 hours—then they will begin to understand that competition in service only is not competition at all. Instead, it is a method of *abolishing competition* by putting the low-cost operator out of business—by denying him the right to make use of the only quality he has which permits him to compete.

When it comes to competition between carriers of the same kind (railroads with railroads, or trucks with trucks) some regulatory uniformity in rates is much easier to defend. For example, there are no uneconomic consequences if all urban buses are required to charge a fare of (say) 15 cents a passenger. But suppose the buses were required to charge the same fares as the taxicabs—for a service which is usually slower and not door-to-door as taxi service is. Such "service competition" would, of course, put the buses out of business. The public would be denied the more economical service of the buses—and a lot of people are more interested in economy than speed.

Or suppose the barge lines were required to charge the same rates as the railroads and the trucks, how much river traffic would there be left? And, if manufacturers of ready-made clothing were required to charge the same prices as custom tailors, how long would the public continue to enjoy the economic advantage of low-cost, mass-produced clothing?

Where Rate Uniformity Is Justified

There is quite likely some advantage in uniform fares for buses, and uniform fares for taxicabs—but no justification whatever for requiring buses to charge fares equal to those of taxicabs. There is no harm done, and quite likely some good, if air freight rates are established on a uniform basis—but no benefit whatever in requiring trucks to charge exactly the same freight rates as the air carriers.

Railroads should, in the public interest, compete with trucks in rates—based upon the comparative costs of the two forms of transportation. But there is no similar public advantage to be served by forbidding relative uniformity in truck rates, on the one hand, and in railroad rates on the other.

Many railroad people believe the railroads should emphasize service a great deal more than they do, in competing with trucks. They are quite correct in this belief. There is certainly need for great improvement in the speed and dependability of railroad service. But the service improvement railroads make should be in harmony with the mass transportation character of railroad service. While improving the quality of railroad service, care must be exercised not to impair its economy. It would hardly pay to run one-car freight trains on the railroads, to match the frequent arrivals and departures at shipping platforms that trucks can offer.

Results Good in Dual-Fuel Tests

- "On-off" dual-fuel system has proved its reliability on Southern Pacific diesels
- Wear rates and deposits are less than anticipated
- Specially tailored lubricating oil must be developed to avert frequent oil changes
- Higher heat content of residual fuel gives more horsepower
- Navy Special boiler fuel gives complete combustion under load
- Heat from engine cooling water keeps this fuel free flowing
- Next step: improved engine parts and fuel-burning equipment

Research and experimentation have enabled the Southern Pacific to apply to a fleet of 50 General Motors road freight diesels an "on-off" system for using a residual blended fuel under load (throttle position No. 5 and higher) and a standard distillate for idling and light loads.

A full explanation of the modifications made on the locomotives and of the characteristics of the fuel was given at the meeting in Los Angeles last month of the American Society for Testing Materials by the road's engineer of research and mechanical standards, P. V. Garin.

The residual blend fuel, selected for Electro-Motive Model 567-B diesel engines and designated the X-6 type by the SP, falls within the range of Navy Special boiler fuel, and should be available in many areas.

Complete typical analysis for this X-6 fuel used during the test is shown in the accompanying table, together with the typical analysis for the X-3 distillate fuel used as the second fuel with the dual system. In addition to its high viscosity, X-6 fuel is characterized by high sulphur content—about 3%.

The system finally developed as the result of Southern Pacific experimentation and research is classified as an "on-off" system. An alternative is the "blending" system, in which a constant amount of distillate fuel is fed to the engine through the output range, supplemented as required by engine demand from the separate residual fuel tank aboard the locomotive. For comparative purposes this system also is currently being tried out on Electro-Motive engines.

The "on-off" system is applied to 50 Electro-Motive diesel freight units operating between Roseville, Cal., and Sparks, Nev., over the Sierra Nevada grades. The system has been successful in this operation, in which engines are working for a prolonged period at full throttle on blended residual fuel, followed by drifting downgrade on distillate fuel.

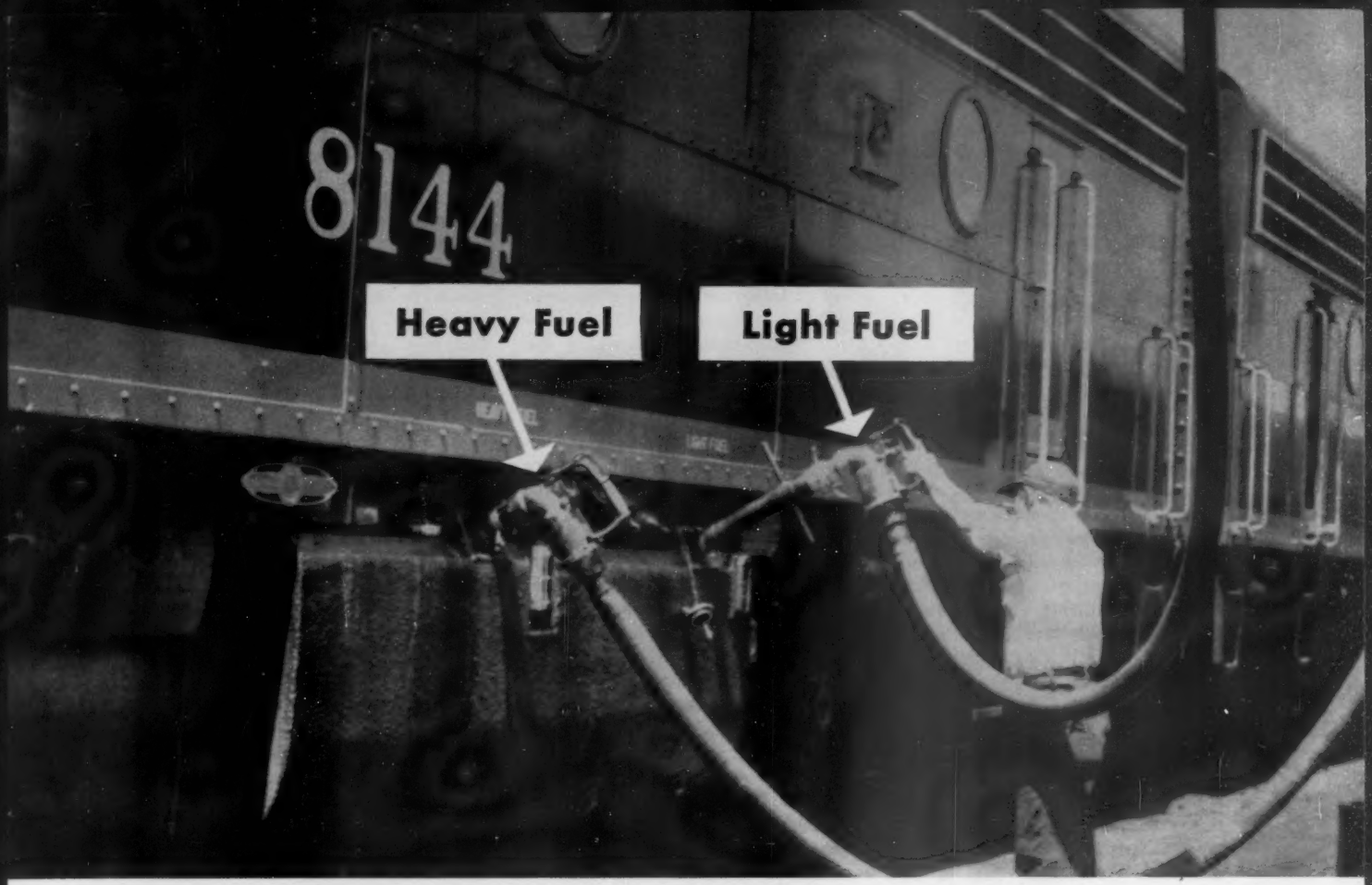
Electro-Motive diesels, as presently designed, still require a suitable distillate type fuel for idling and low outputs to avoid fouling, excessive

(Continued on page 26)

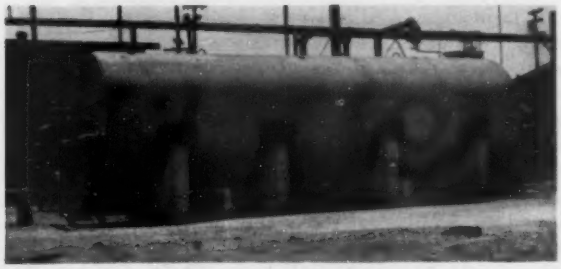
TYPICAL ANALYSES OF X-3 AND X-6 FUELS

Physical Property	*X-3 Fuel*	*X-6 Fuel*
Flash, deg F	165	180
Viscosity, SSU at 100 deg F	38.1	300
Gravity, deg API	30.9	17
Sulphur, per cent	0.50	3.3
Pour point, deg F	—5	—35
Carbon residue, per cent	0.15	5.7
Ash, per cent	Nil	0.05
Color	4*	Black
Cetane No. (calc.)	41	25
Btu per gallon	141,075	148,385
Btu per pound	19,445	18,700
Storage stability	good	good

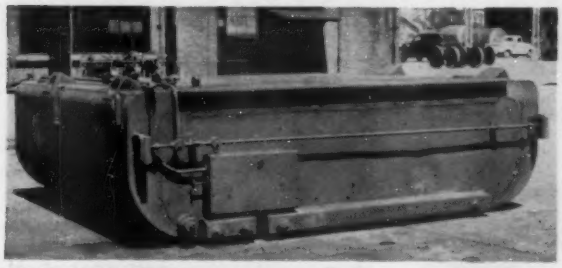
* Color code ASTM D-155.



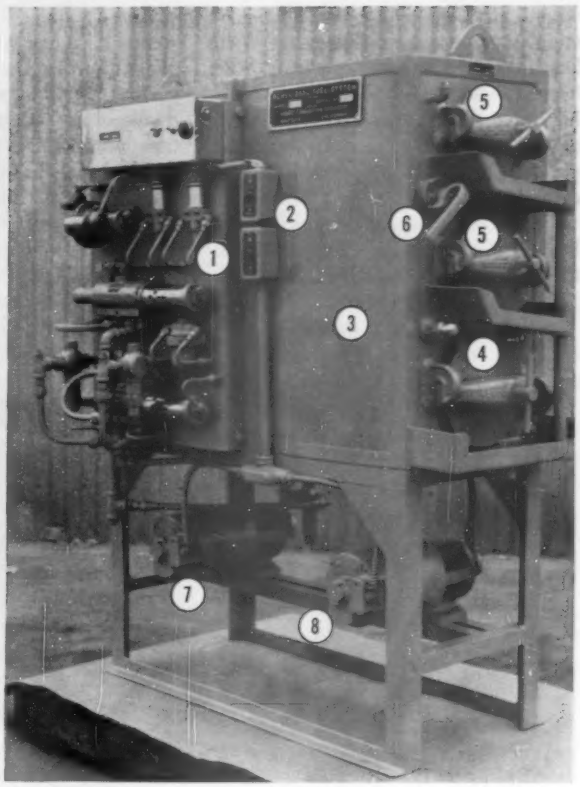
FUELING two compartments of underbody tank on dual fuel unit at the same time.



HEATED DAY TANK at service track for dispensing residual type fuels. Capacity, 12,000 gal.



DUAL FUEL TANK prior to installation under locomotive unit.



NEMEC DUAL FUEL SUPPLY unit includes *1* selector panel, *2* heavy fuel and circulating pump switches, *3* heat exchanger and fuel filter pump, *4* primary filter, *5* secondary filters, *6* secondary filter selector valve, *7* heavy fuel pump, *8* circula ing fuel pump.

smoking and spark emission. From throttle position No. 5 and higher, Model 567-B engines will operate effectively on residual blended fuel such as the X-6 type.

The dual-fuel system uses the residual type fuel at high outputs only, eliminating the problems encountered at idling and low outputs. This means utilization of less costly fuel during periods of high fuel consumption. Engine performance, availability, and utilization have not been adversely affected by dual fuel operation, Mr. Garin reports.

The maximum acceptable viscosity of residual fuel depends on the amount of heat available to reduce that viscosity prior to injection. Heat exchangers utilizing engine cooling water are satisfactory for X-6 type residual blended fuels with a viscosity of 300 SSU at 100 deg F. To utilize fuels of higher viscosity than can be handled by cooling-water heat exchange, it will be necessary to provide additional fuel heating facilities aboard the locomotive. These facilities preferably should take advantage of waste heat, such as that available from the exhaust stack, to supplement that available in the cooling water.

Exhaust-stack heat is at a maximum when engine is working at high output, the condition at which maximum temperature is necessary for heating heavy fuel. Electric fuel heaters and other energy consuming heating systems are chargeable against the output of the diesel engine and are, therefore, less economical.

Combustion pattern with X-6 fuel heated to 170 deg F is essentially the same as with distillate fuel at full throttle position. Smoke emission at high output with X-6 type fuel is equivalent to distillate fuel, indicating completeness of combustion. Spark emission with X-6 fuel is at a normal level. High sulphur content of approximately three per cent in X-6 fuel has not produced excessive wear or corrosion within the engine after more than one year's operation with alkaline reserve type of lubricating oil. No doubt this is because the fuel is used only at high output when engine temperature and pressures are conducive to the complete combustion.

Cetane number, calculated at 25 for X-6 fuel, appears to be of no consequence in the performance of this fuel at high outputs only. Filtration problems with X-6 type fuel have not been experienced. The filter system utilizing a sock-type element as a primary filter and a resin-impregnated pleated paper type element as a secondary filter has proved an excellent combination for this type of fuel. No difficulty has been experienced in realizing at least the normal one month's service from this combination, says Mr. Garin.

Injector Tips

A standard injector with spray tip having six holes 0.0115 in. in diameter at a 75 deg spray angle has produced the best results to date of the various types of spray tips tried in dual-fuel operation. Alternate operation of injectors on distillate and residual fuels has the beneficial effect of minimizing injector tip deposits. It is necessary, however, to avoid contamination of distillate fuel with residual in order to avoid excessive smoking or fouling of injectors, particularly while idling.

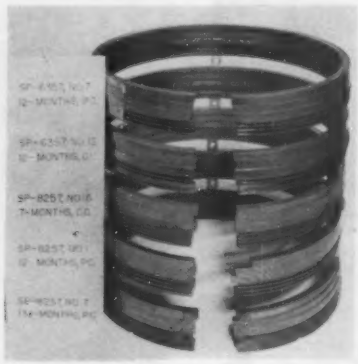
The higher volumetric heat content of the X-6 residual blended fuel, even when heated for injection, increases the horsepower output of the diesel engine at a given power piston setting. A secondary fuel saving can, therefore, be realized by adjusting the power piston setting to compensate for this increased heat content inherent in the lower gravity X-6 fuel.

From experience to date, indications are that wear rates on rings and liners with dual-fuel operation are somewhat higher than with distillate fuel. However, by proper selection of power assembly components and types of lubricating oil, premature removal of power assemblies for this cause should not be necessitated between scheduled engine maintenance periods. It is felt that this is more significant than the magnitude of the measurements. The report indicates that the accumulated engine parts wear with dual-fuel operation is much less than anticipated or predicted. This, again, is no doubt due to the utilization of the residual fuel at high engine outputs only. Variation in wear rates depending on the location of an individual cylinder assembly relative to the blower would indicate that airborne abrasives are a definite factor in the general wear pattern, regardless of the type of fuel used.

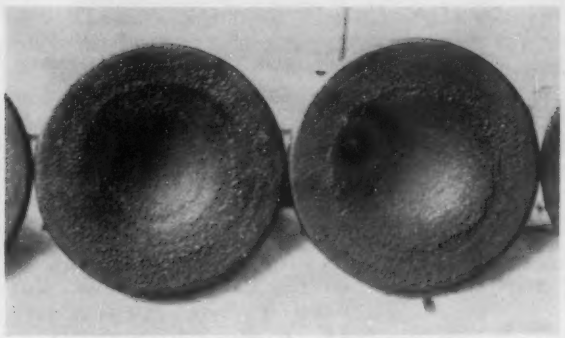
Chrome-plated cylinder liners hold up well in dual-fuel service, but the type and surface finish of the chrome plating appear to affect materially the wear rate of the liner and rings. Preliminary indications are that channel chrome plating wears appreciably less than the pocket chrome plating of the types used in the test engines. In the current SP research on power assembly components further information is being developed on the relationship between type of chrome plating and wear rates. This will include the effect of liner surface conditions on ring wear and scratching.

Without compensating for the increased horsepower inherent in the higher volumetric heat content of X-6 fuel, cylinder liner wear, per year, at 2-in. from top of liner, on the same type of chrome-plated liner, was found to be 0.0064 in. for X-6 residual fuel and 0.0040 in. for X-3 distillate fuel, or 1.6 times greater

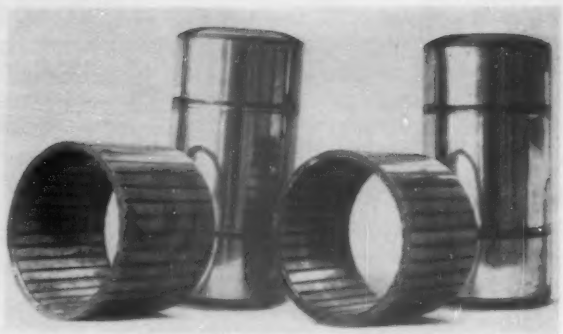
PISTON AND RINGS (Assembly 7, diesel unit 8257) after 13½ months.



TYPICAL RING SETS removed from diesel locomotive control units.



TYPICAL EXHAUST VALVE faces after 13½ months burning X-6 fuel.



WRIST PINS and carrier bushings after 13½ months service with X-6 fuel.

with residual fuel. However, this wear rate is sufficiently low so that the normal service life of the liner will not be affected or maintenance cost increased on this account. On an equivalent horsepower basis, this increased wear can be expected to be less. Engine builders' recommended limit of wear for cylinder liners is 0.025 in. in diameter.

Top compression ring face wear with X-6 residual fuel appears to be approximately twice that obtained with X-3 distillate fuel. As mentioned, the surface condition of the chrome-plated liner materially influences rate of ring wear. Wear rate increase on second and third compression rings is less.

It is evident that a more wear-resistant compression ring for use in chrome-plated liners is desirable for dual-fuel operation on the Model 567 engines. Such a better wearing ring would also benefit 567 engines operating on distillate fuel, particularly those at higher rated output. The additional horsepower from the dual-fuel engines, because of the higher volumetric heat content of the X-6 fuel, doubtless influenced the increase in ring wear in the test unit to a certain extent. Top compression ring side wear was also greater with the X-6 fuel as compared with the X-3 fuel. Oil-ring wear with both fuels was, in general, comparable.

Piston thrust washer wear per year with X-6 fuel averaged 0.0065 in., as compared with 0.0039 in. for X-3 fuel, or aproximately 1.7 times more wear with the residual fuel. This was, no doubt, influenced by additional horsepower from the dual fuel unit and abrasive conditions from position of unit in consist. The thrust washers used in both units were not the centrifugally cast type currently used.

Connecting-rod bearing and journal wear in X-6 unit appeared comparable to those in X-3 unit, as did piston-pin and bushing wear, based on clearance measurements.

Engine deposits found after 13½ months' operation with X-6 fuel were satisfactory and in no way affected the proper operation of the engine. Compared with the deposits found in X-3 unit after 12 months' operation, using the same lubricating oil, the X-6 unit was rated 61.9% clear as compared to 69.5% for the X-3 unit, 100% indicating a perfectly clean new engine.

Ring Deposits

Piston compression ring belt deposits with X-6 fuel were slightly heavier than with X-3, but apparently did not impair proper ring action as there were no stuck rings. Oil control ring deposits were also slightly heavier with X-6 fuel, but oil drain passages and grooves were open. Piston skirt varnish was darker with X-6 fuel, but there was no evidence of scoring. Piston carrier bushing oil groove deposits and wrist-pin deposits were similar with the two fuels.

Air-port deposits were slightly heavier with X-6 fuel. After 13½ months' operation air ports were approximately 80% open (front and back) as compared with 85% with X-3 fuel after 12 months' operation. Exhaust-port deposits with X-6 fuel were very similar in thickness (approximately ⅛ in.) to X-3 deposits, although they were somewhat darker in color.

Exhaust-valve stem and underhead deposits with X-6 fuel were comparable to those formed with X-3 fuel, although valve seat and face deposits were somewhat heavier.

Adjustment of horsepower with higher volumetric heat content fuels will minimize the possibility of corrosive attack on valves from contact with hot exhaust gases. Compensation in horsepower output will reduce temperatures and alleviate critical conditions where such attack can occur. Protective coatings on valves, such as aluminizing and chrome plating, are being investigated in research on diesel power assemblies to determine whether they are beneficial in resisting attack. Grain flow in the valve head is important, as exposed grain ends appear more subject to attack. Stellite seats on exhaust valves are desirable with dual-fuel operation, as well as on distillate-fuel engines, to resist guttering of seats due to imbedded particles, airborne or otherwise.

As expected, somewhat higher combustion residue loads were found in the samples of lubricating oils from the X-6 unit as compared with the X-3 unit, both units using the same lubricating oil. The trends in the used lubricating oil follow the normal pattern, but the cycle is accelerated. It appears that at least three-month intervals can be realized on the dual-fuel units between drains based on lubricating oil condition and proper condemning limits. This is not considered an abnormally short lubricating oil life for the type of fuel used and compares with oil drains at approximately six months' interval with distillate fuel in the same service.

The rate of viscosity increase in

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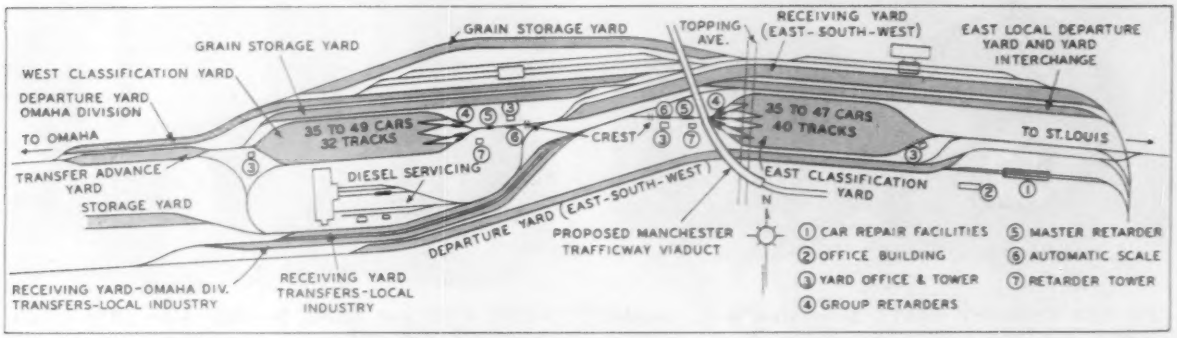


DOUBLE-HUMP YARD WILL PERMIT . . .

Switching in Both Directions

Equipped with electronic controls and communications, MP's $11.5-million facility will provide 40 eastward classification tracks and 32 westward, and is expected to reduce freight-car handling time an average of nine hours

Substantial improvement in service will be result from a new $11.5-million double hump-retarder yard which the Missouri Pacific will build at Kansas City. A 40-track eastward classification yard will be completed in two years and a 32-track westward classification yard in three years. Completion of this facility is delayed by the existence of an important highway crossing at the proposed site. This highway must be kept open until a new viaduct carrying Manchester Trafficway over the new yard is completed.

A Major Terminal

Kansas City is one of the major terminal points on the MP system. Four operating divisions terminate there and interchange is made with 10 trunk-line railroads and one terminal company. The MP handles approximately 27 per cent of the rail business originating and terminating in the Kansas City area. During normal operations an average of 2,600 to 3,600 cars are handled daily through its existing East Bottoms yards. All cars are now received, classified and dispatched in seven small flat-switching yards making up the East Bottoms facilities.

At Kansas City the MP has a total of 72 classifications of freight-car movements through the yards, making the task of switching the cars a complicated one. This pointed up the need for switching facilities of the most modern sort. The company realized that its best service to shippers would not be rendered unless changes in operations could be made and the whole switching process speeded up through modernization of existing facilities. After exhaustive surveys and studies came the ultimate decision to build a double hump yard.

The new facility will be known as Neff yard in honor of the road's president, Paul J. Neff. From end to end it will be almost three miles long. The receiving and departure yards in each direction will have a sufficient number of tracks to handle

WHAT THE MISSOURI PACIFIC PLANS FOR NEW KANSAS CITY TERMINAL

- Expenditure of $11.5 million.
- Average gain of 9 hours per car in handling time.
- Capacity of 3,000 plus cars per day, readily expandable to 6,000 cars per day.
- Modern electronic equipment.
- Automatic track scales.
- Departure yard tracks with 155-car capacity.
- Double humps to deal with 72 separate classifications.

normal business, and track lengths will be adequate to hold a train of 120 cars in the eastward receiving yards, 140 cars in the westward receiving yards, and 155 cars in each of the departure yards.

Potential Figured In

The two new hump assemblies are to encompass some of the existing yard structures at Topping avenue. The present car-repair shop, power plant, and division-office building and other auxiliary facilities will be relocated to permit construction of units of the new yard at their proper locations.

The project has been predicated on the basis of current need, but it can be developed to a traffic potential projected 15 to 20 years in the future. While it is anticipated that it will easily handle 3,000 cars in a 24-hr period, its capacity can be increased to 5,000 to 6,000 cars a day.

The new yard will be able more smoothly to handle the accumulations of traffic "bunches" received in peak periods and will reduce these peaks much more readily than is now possible. Trains for all divisions will be made up from the rear, and in proper order. There will be a separate yard for local trains and a track to by-pass the hump for non-humping cars.

It will make for more convenient handling of engines to and from the diesel facility.

An "Electronic" Yard

The road reports that the new yard will be a model of efficiency, employing the latest electronic equipment available. There will be a master retarder in each yard and four group retarders in the west yard and five in the east yard. An automatic track scale on each hump will weigh the cars just after they leave the hump crest and before they reach the master retarder.

There will be the usual auxiliary facilities such as block signaling, radio communication, Teletype equipment, yard-paging and talk-back speakers, and the necessary offices, control towers and extensive floodlighting equipment for the area.

During the construction phases the Missouri Pacific anticipates that operations will face the natural inconveniences of working against disruptions of the normal routine, and it is not improbable that other smaller yards in the Kansas City area will be required to do some extra switching. For a while, the road believes that the influence of the construction work may be felt as far away as Jefferson City on the east, and Osawatomie to the west, where the consists of trains for Kansas City may have to be rearranged before they enter the Topping avenue area.

Railroading

After Hours

by James G. Lyne

Editor, Railway Age

Service Quality Ratio

John W. Barriger of the P&LE (to whom I shall be everlastingly indebted for the things about railroading that he has taught me) has several times made this observation:

"What the railroads need, possibly more than any other one thing, is an index (comparable to the operating ratio or the transportation ratio) which will give them a constant quantitative check on the quality of their freight and passenger service."

JWB didn't suggest how such indexes could be developed, but I am sure that it could be done with reasonably satisfactory results, by the sampling techniques which have been so highly developed by market and opinion researchers.

How Sampling's Done

On the question of developing ratios by sampling, Claude Robinson, president of Opinion Research Corporation, has sent me an attractive 20-page booklet entitled "Probability Sampling." It tells in simple language and illustrations how the market and "attitude" researchers go about knowing what a lot of people think by questioning only a few of them.

If a housewife wants to know whether a box of strawberries is good (the booklet explains), she doesn't have to examine every berry in the box. She gets the information by shaking the box a little, and looking at some berries at the bottom and some of those in the middle, as well as at the top.

Experience has shown that—if you are skillful in arranging your sample (a certain ratio of responses from this group, another from another, and so on), the "little world" of the sample tells you the opinions of the "big world" you want to know about.

Small World Section

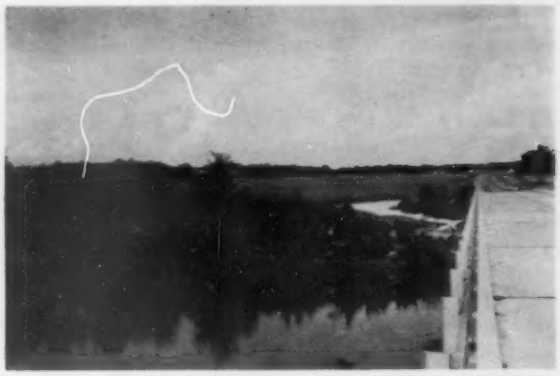
I still haven't had an answer to the question of where the term "zulu" (for a car containing an emigrant and his personal property) comes from. But I keep on turning up distinguished alumni of the Rock Island. The latest one to reveal himself is H. M. Irwin, vice-president and secretary-treasurer of the D&H.

HMI started railroading as a station helper at Tampa, Kan., in 1909 and shortly thereafter went to nearby Herington, then my home town, for a short stretch as a yard clerk. Those were the days when almost everybody around a yard worked 12 hours a day, 7 days a week—which didn't allow a great deal of time for social life.

HMI worked on the night shift, 6 p.m. to 6 a.m., and he says he recalls those days with a great deal of pleasure. The railroad in those days in Herington was not only the principal source of employment—but also the most popular diversion.

Here's What the Central of Georgia Has to Sell . . .

LAND that could easily be adapted for industrial use . . .



WATER in an area where it is a scarce commodity . . .

How Two-Goal Advertising

When a company with a product to market puts over an advertising campaign that sells it, that's good business—right now. And when the ads also promote public good will, that's still more good business—for tomorrow.

The Central of Georgia's campaign to sell on-line sites in the blossoming industrial South has just such a two-fold goal and, as it is appraised by Owen J. Murry, assistant to President W. E. Dillard, the program is a winner both ways.

Aimed at decision-making industry executives, CofGa ads run in national business magazines, newspapers, trade journals and periodicals like Railway Freight Traffic which reach industrial traffic managers. In 1955, the road made 37 insertions in magazines and 102 in Georgia, Tennessee and Alabama newspapers in a campaign to sell land.

The total cost last year was under $50,000, Mr. Murry reports, and the campaign drew 254 inquiries from seriously interested firms. Another 203 queries had been received up to June this year.

Geared to other elements of the site-selling campaign, the ads are "straight, simple, specific and sell-packed," Mr. Murry relates. They are "factual and dignified. No tricky layouts. No double-entendre headlines. No cute copy." Attention-getting devices that tie to the theme of the ad's message are used, he said, and "simplicity is achieved by using a photograph, map, list of outstanding features of the site, and brief copy. Only one specific site is discussed in each ad and the copy is concentrated on selling that site by pointing out its unique advantages as well as the general advantages the Southeast provides industry."

Prominent in most of the ads is the availability of abundant water—a vital but shrinking commodity in the South's manufacturing boom—many of the sites being promoted being river locations.

Industrial "communities" planned by the Central at Atlanta and Dothan, Ala., are another key feature in the campaign, backed up by copy telling of the South's "natural" assets: plentiful labor, raw materials close by, and mild climate.

All this is then tied in with the service provided by the Central of Georgia-Savannah & Atlanta lines, with emphasis on the road's connections with 15 other major railroads and with Seatrain at Savannah. Each ad, too, offers a free brochure describing with ample illustration available sites and developments.

"Integrity and dependability" are the keystones of the public relations aspect of the campaign, with the advertising stressing these Central of Georgia qualities. "The advertisements also cultivate good will for Central among Southern business and industrial leaders," Mr. Murry reports. "Some of these executives are customers, some are prospects. Both groups are kept reminded of Central of Georgia and its services."

Picking out a single city in each ad, Mr. Murry notes, also enables the road to sell itself to residents of that city as an "active force in business, industrial and residential expansion. Multiply this favorable one-city re-

"The primary objective of Central's and S&A's industrial site advertising is to sell expanding industries on the idea of building new plants on appropriate sites along our 2,000-mile rail system. The important secondary goal is to create and develop cordial, understanding and cooperative relationships with prospects, customers and the people in the area served by Central and S&A lines."

—O. J. Murry, assistant to president

AND SERVICE connecting plant sites with 15 other major railroads.

Is Stimulating an Industrial Boom

action by 11—the number of different Georgia and Alabama municipalities represented by sites advertised in 1955—and it seems reasonable to believe that Central is making progress toward better public relations throughout its territory."

Exactly what new industry means to a community is spelled out in Central's newspaper ads, as summed up in this statement from one of them: "Once again, Central of Georgia shows concrete evidence of its eagerness to help bring new industrial prosperity to this area. We are proud to work shoulder to shoulder with you as your partner in progress."

And Here's How the Railroad Sells it . . .

STRAIGHT, SELL-PACKED advertising, national and local, promoting industrial "communities" and the Central of Georgia as a partner in community progress.

Railway Officers

CANADIAN NATIONAL.—Henry W. Craig, freight traffic manager, Montreal, appointed traffic manager, foreign freight department, at that point, succeeding William A. Watson, retired. **H. J. Sneath,** foreign freight agent, Montreal, appointed assistant freight traffic manager there. **Robert Pirrie** and **Denis Headley,** assistant general freight agents (rates), named general freight agents, Montreal. **William Hindle,** assistant foreign freight agent (rates), Montreal, appointed assistant general freight agent. **H. L. Lapointe,** foreign freight agent at Toronto, transferred to Montreal.

H. M. Blaiklock, assistant general manager, real estate department of the system, Montreal, promoted to general manager of that department, succeeding **Frank Thomas,** whose retirement was noted in Railway Age, Sept. 10, p. 46.

R. J. Payne, district car foreman, appointed assistant superintendent of car equipment, Montreal.

J. Nichilo, safety supervisor, Montreal, appointed regional safety supervisor, Central region, Toronto, succeeding **B. C. Atkins,** retired.

G. H. Bloomfield, superintendent car shops, Transcona, appointed regional employee relations officer, Central region, Toronto.

Edwin J. McInerney, regional supervisor of transportation, appointed superintendent of car service, Atlantic region, Moncton, N. B., succeeding **George A. Blakney.**

W. G. Monk, supervisor of diesel equipment, Montreal, appointed assistant superintendent motive power there, succeeding **K. E. Hunt,** assigned to other duties.

Harold C. Greensides, assistant chief architect, succeeding **George F. Drummond,** retired. **G. F. Lithgow,** architect, Central region, Toronto, named assistant chief architect, Montreal.

J. Edmund Richard, district car foreman, Moncton, N. B., appointed assistant superintendent of car equipment there.

R. A. Fisk, assistant engineer, maintenance of way, Winnipeg, Man., appointed district engineer at Edmonton, Alta.

Following CNR appointments were announced erroneously under the **SOO LINE** in Railway Age, Oct. 1, p. 46: **George A. Blakney,** superintendent of car service, Atlantic region, Moncton, N. B., appointed regional employee relations officer there. **W. S. Ziegler,** assistant vice-president, personnel, Montreal, resigned, and the duties of **W. T. Wilson,** assistant vice-president, personnel, extended to embrace general supervision of that department. **T. A. Johnstone,** labor relations assistant, appointed manager, labor relations section. **G. N. Daffern,** research assistant, appointed manager, personnel section, Montreal.

COTTON BELT.—R. M. Nall, industrial agent, Tyler, Tex., appointed assistant to the president there, succeeding **M. J. McNamara,** who retired October 1.

R. M. Nall

ERIE — LACKAWANNA. — Effective October 13, the Erie and Lackawanna dining car service will operate on a coordinated management basis, with headquarters at Hoboken, N. J. **John M. Collins,** superintendent, dining car department, Erie, Jersey City, appointed manager, dining car department, and **Russell H. Lloyd,** superintendent dining car service, Lackawanna, Hoboken, appointed superintendent, dining car department.

RAILWAY EXPRESS AGENCY.—Carl B. Dooley, superintendent, Buffalo—Western New York division at Buffalo, transferred to the Intermountain division at Denver, Colo., succeeding **Truman T. Moore,** who replaces Mr. Dooley at Buffalo.

J. Wylie Lumpkin appointed manager of safety at New York, succeeding **J. M. Shanaphy,** retired.

WINSTON-SALEM SOUTHBOUND.—H. Coughenour appointed paymaster, Wilmington, N. C., succeeding **E. O. Eakin,** retired. **C. E. Thorpe** named assistant paymaster.

OBITUARY

Clyde Cocke, 64, general purchasing agent, **Norfolk & Western,** Roanoke, Va., died of a heart attack October 4 at his home in that city.

DUEL FUEL TESTS

(Continued from page 27)

the X-6 unit was somewhat higher than in the X-3 unit. This was undoubtedly due to the greater accumulation of contaminators in the lubricating oil but did not necessitate premature oil drains. Alkaline reserve type of lubricating oil gave good performance in the X-6 unit. Neutralization of the alkaline additives in the X-6 unit was approximately twice as rapid as in the X-3 unit. The acid number range encountered in the lubricating oil from 2.5 to 4.0 at pH of 11.0 is primarily indicative of weak acids and lubricating oil additive decomposition and is not considered harmful to engine operation. This fact was verified by inspection of lubricated engine parts at end of test period.

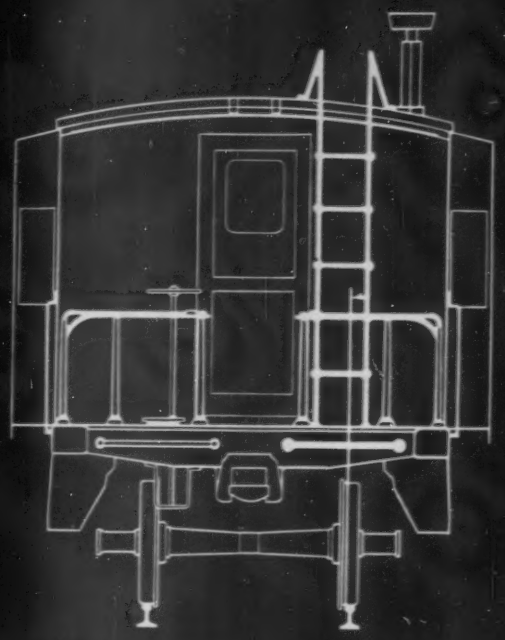
Preliminary experience with nondispersant lubricating oil in dual-fuel service indicated to the SP that this approach is worth further study. Analyses of this oil during the initial test period showed low acid numbers, stable viscosity and low percentage of contaminators, probably due to the improved filtration possible with this type of lubricating oil which permits removal of contaminants from oil stream by filter action rather than their dispersion and continual circulation in the engine. The inherent mild dispersant characteristics of this test lubricating oil resulted in general engine cleanliness for the duration of the preliminary test.

Another variation in lubricating oil practice being further investigated is the addition, under laboratory control, of additive concentrate to the crankcase to maintain the desired level of oil condition, thereby extending service life of oil in the engine.

Mr. Garin advocates further study of improvements to the lubricating oil filter system on E-MD engines, particularly with dual-fuel operation, so that contaminants in the oil stream are more effectively removed. Such improvements would also benefit engines operating on distillate fuel. However, no changes in normal lubricating oil filter practices were necessitated by the dual-fuel operation even with the present lubricating oil filtration system.

The SP's first standing tests began late in 1954 with an E-MD F-7 unit. In February 1955, the SP began first road tests with a dual-fuel system. Since August 1955, a total of 209 new units have been ordered with partitioned fuel tanks to simplify future dual-fuel installations. At present 52 SP road units in regular freight service are burning two fuels.

"G" CONTROL FOR CABOOSES



"G", the unit of change in velocity which is equal to the pull of gravity or 32.2 feet per second.

22 Leading Railroads shock-proof cabooses with Waugh or Duryea Cushion Underframes*

Atchison, Topeka, and Santa Fe
Baltimore & Ohio
Bessemer & Lake Erie
Boston & Maine
Central of New Jersey
Chesapeake & Ohio
Chicago, Burlington & Quincy
Chicago & Eastern Illinois
Chicago, Milwaukee, St. Paul & Pacific
Denver & Rio Grande Western
Lehigh & Hudson River
Lehigh & New England
Lehigh Valley
Norfolk & Western
The Pennsylvania
Pittsburgh & Lake Erie
Patapsco & Back Rivers
Pittsburgh & West Virginia
St Louis & San Francisco
The Reading Company
The Virginian
Western Maryland

*In service or on order

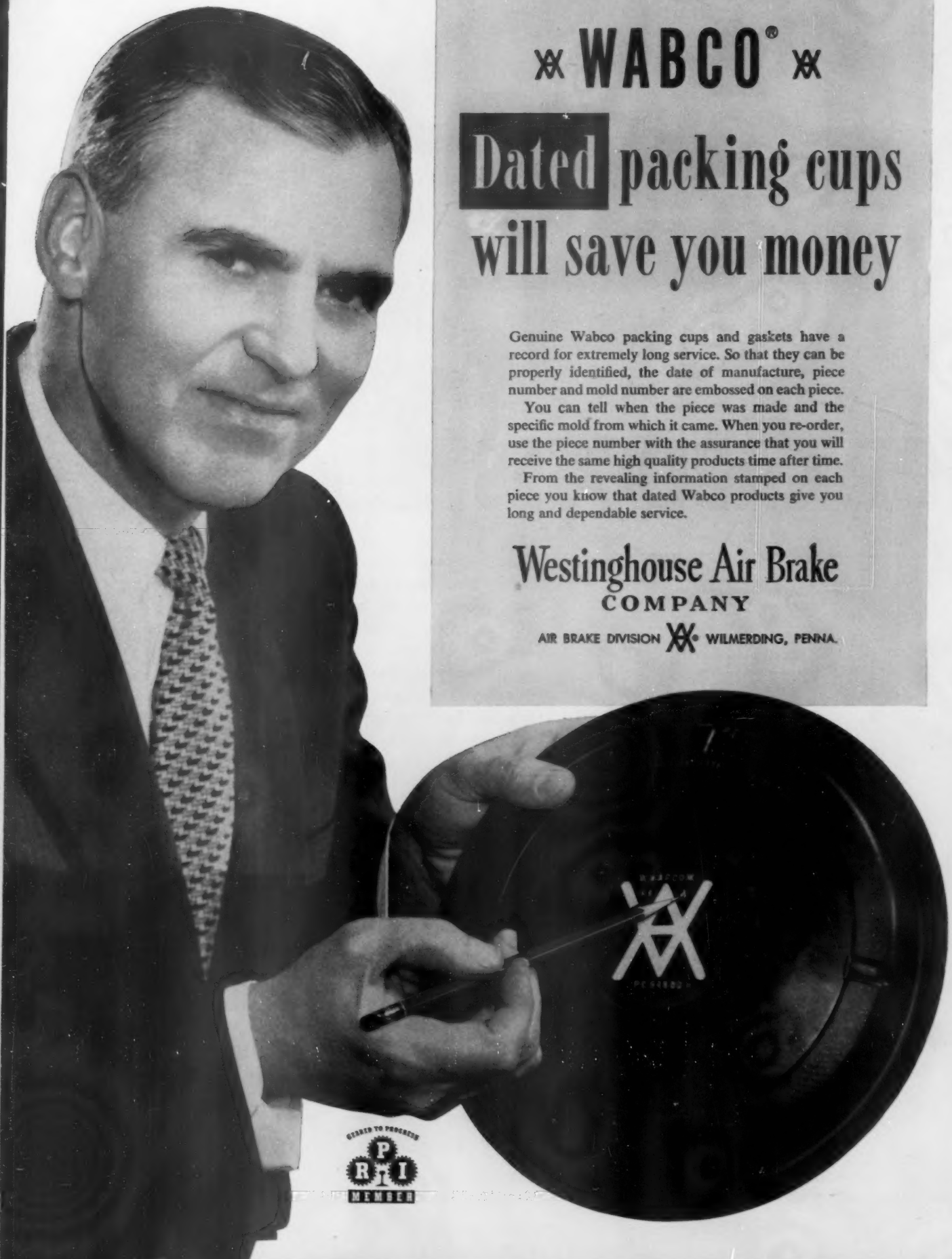
Always a rough riding car, the caboose, today, due to faster freight train operation is even more rugged. In putting a long train into motion, the locomotive accelerates up to as much as 10 mph before the caboose starts to roll. With every such acceleration or deceleration the caboose, subjected to the backlash of heavy car after car in pull-out or run-in, is jerked or jolted. The degree of shocks engendered by such accelerations makes it imperative that cabooses be given the maximum cushioning protection. Twenty-two railroads, with a total of more than 2,000 cabooses equipped, have found the answer . . . the Waugh Cushion Underframe.

The Waugh Cushion Underframe for cabooses is a unique car cushioning device of ample capacity. Under impact, the center sill slides longitudinally within the underframe. Impacts are cushioned by a snubber and long-travel springs within the sill supplemented by rubber Waughmats behind the couplers at each end of the sill. In consequence, the forces transmitted to car structure at all speeds of impact are only a fraction of that for cabooses equipped with conventional gears.

To fully appreciate this smoother riding and extra protection, ride a Waugh-equipped caboose in regular service. Arrangements for such personal observation can unquestionably be made with any of the railroads listed.

WAUGH Cushion Underframe

WAUGH EQUIPMENT COMPANY—NEW YORK · CHICAGO · ST. LOUIS · CANADIAN WAUGH EQUIPMENT COMPANY, MONTREAL



WABCO®

Dated packing cups will save you money

Genuine Wabco packing cups and gaskets have a record for extremely long service. So that they can be properly identified, the date of manufacture, piece number and mold number are embossed on each piece.

You can tell when the piece was made and the specific mold from which it came. When you re-order, use the piece number with the assurance that you will receive the same high quality products time after time.

From the revealing information stamped on each piece you know that dated Wabco products give you long and dependable service.

Westinghouse Air Brake COMPANY

AIR BRAKE DIVISION WILMERDING, PENNA.

GEARED TO PROGRESS
PRI MEMBER

Let the Bell System help you to more piggyback business

Up-to-the-minute communications help railroads take full advantage of expanding piggyback operations.

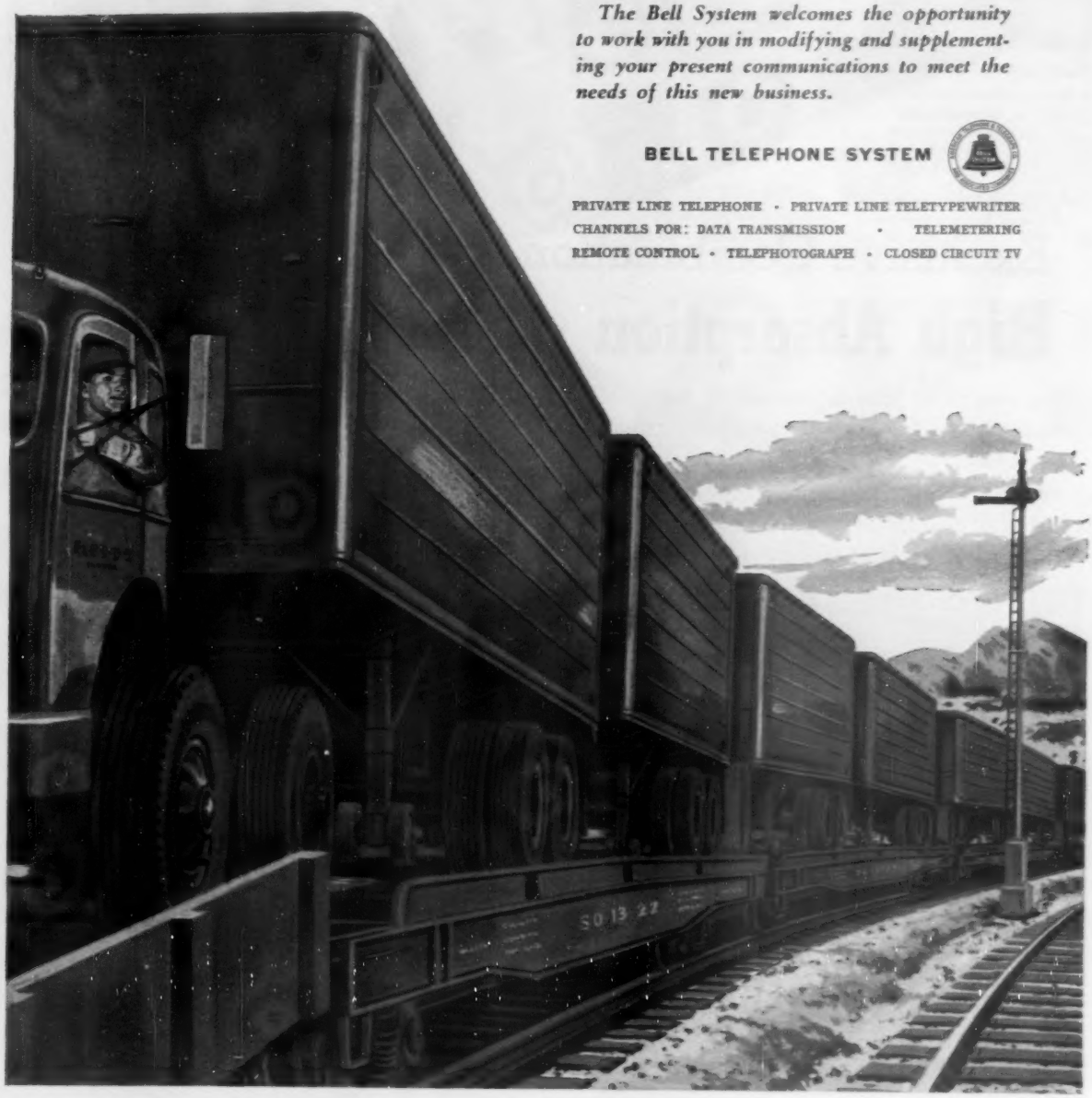
This means more efficient scheduling. Empty back-haul movements are eliminated or reduced. Interchange arrangements and interline service are speeded up. You get more use out of flat cars with tracings minimized.

Bell System communications can help you to more piggyback business . . . improve service at your off-line traffic offices . . . give better control of the entire operation—en route as well as in delivery and pickup areas.

The Bell System welcomes the opportunity to work with you in modifying and supplementing your present communications to meet the needs of this new business.

BELL TELEPHONE SYSTEM

PRIVATE LINE TELEPHONE · PRIVATE LINE TELETYPEWRITER
CHANNELS FOR: DATA TRANSMISSION · TELEMETERING
REMOTE CONTROL · TELEPHOTOGRAPH · CLOSED CIRCUIT TV



Westinghouse
Friction Draft Gear
Type NY-11-F
Certified A.A.R.

* Energy is **Absorbed** (Not Stored)

* Exclusive Combination . . .

High Absorption and Low Reaction!

The energy of today's railroading impacts is dissipated by *friction* within the Westinghouse Draft Gear.

High absorption is characteristic of this particular draft gear, in combination with low reaction. Shocks are absorbed without transmitting excessive forces to the car structure and lading. Damage claims are reduced to a minimum, your equipment is protected. Unnecessary and costly maintenance is avoided.

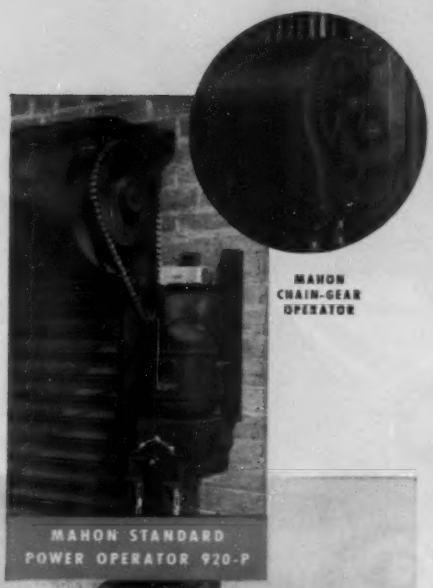
The Westinghouse design provides proven realistic protection . . . continuing efficiency . . . important economies.

Cardwell Westinghouse Co.
332 S. Michigan Ave., Chicago 4, Illinois
Canadian Cardwell Co. Ltd., Montreal

Specify
CARDWELL
WESTINGHOUSE

Rolling Steel Doors

Manually, Mechanically, or Electrically Operated



For openings in industrial plants, warehouses, loading docks in commercial buildings, and railroad transfer docks, rolling steel doors offer the advantages of permanence, lower maintenance, greater security and protection against intrusion and fire, and the important space-saving and timesaving features of vertical roll-up action. No other type of door can compare with the everyday operating convenience of an electrically controlled power operated rolling steel door. The vertical roll-up action occupies no usable space either inside or outside of the door opening. There are no overhead tracks or other obstructions to interfere with crane handling adjacent to door openings—the door curtain is compactly rolled up above the lintel safe from damage when the door is open. Quick-opening, quick-closing Power Operated Rolling Steel Doors, with signal arrangements and remote push-button control stations, offer the ultimate in convenience and timesaving operation . . . and their all-metal construction gives you the permanence which assures a lifetime of trouble-free service. However, before you select a Rolling Steel Door, check Specifications carefully . . . you'll find extra-value features in Mahon doors—for instance, the galvanized material in Mahon curtain slats is BONDERIZED and DIP-COATED with synthetic enamel which is baked on at 350°F. prior to roll-forming. You will find many other quality and design features in Mahon Rolling Steel Doors that add up to a greater over-all value. See Sweet's Files for information including Specifications, or write for Catalog G-57.

THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Roof Decks and Long Span M-Decks; Permanent Floor Forms; and M-Floors (Electrified Cel-Beam Floor Systems).

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Three Mahon Power Operated Rolling Steel Doors 23 Ft. x 16 Ft. installed in double truck openings in an enclosed loading dock in UdyEte Corporation's new plant in Detroit, Mich. O'Dell, Hewlett & Luckenbach, Architects. Barton-Malow Co., Gen. Contrs. Two more Mahon Power Operated Rolling Steel Doors 17'-2" x 23'-0" are installed in railroad openings in this new, modern plant.

MAHON

PLUS these advantages:

LOW CONDUCTIVITY
Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity — .25 btu per square foot, per hour, per degree F., per inch thick.

LIGHT WEIGHT
Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

PERMANENT
Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

EASY TO INSTALL
Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

COMPLETE RANGE
STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

HIGH SALVAGE VALUE
The all-hair content does not deteriorate with age; therefore has high salvage value. No other type of insulation offers a comparable saving.

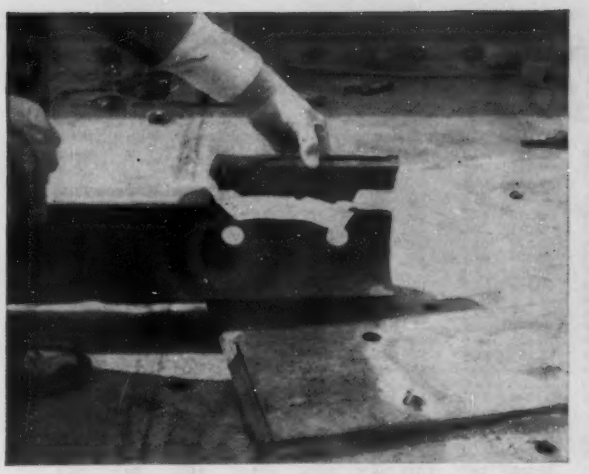
Sudden and extreme temperature changes do not harm valuable perishables when they are shipped to market in cars insulated with dependable Streamlite HAIRINSUL.

Leading refrigerator car builders recognize this fact. That is why, for half a century, they have been specifying HAIRINSUL, the dependable all-hair insulation. They know it is the most efficient, most economical under ALL conditions . . . and that Streamlite HAIRINSUL weighs 40% less.

More reasons why refrigerator car builders prefer Streamlite HAIRINSUL are given at the left. There are more, too. Write for complete data.

AMERICAN HAIR & FELT COMPANY
Merchandise Mart • Chicago, Illinois

SETS THE STANDARD BY WHICH ALL OTHER REFRIGERATOR CAR INSULATIONS ARE JUDGED



Corrosion fatigue caused this rail end failure. NO-OX-ID prevents these hazards.

Rail base eaten away by brine drippings. NO-OX-ID protective coatings prevent this deterioration.

Steel bridges damaged by rust cost money. NO-OX-ID's long-life protection prevents costly corrosion.

Rusty gauge rods are difficult to adjust. NO-OX-ID stops corrosion...makes adjustment easy for years to come.

NO-OX-ID PROTECTS...NO-OX-ID SAVES

Corrosion takes its toll wherever steel is used. Replacing rust-ruined trackage, signal equipment, bridge and overpass steel members is expensive and unnecessary.

Many leading railroads rely on Dearborn NO-OX-ID to cut down materials and maintenance costs wherever steel is exposed. Consult your Dearborn Field Engineer. His broad railroad experience, plus Dearborn's extensive research and laboratory facilities, can save you important money. It pays to investigate.

Dearborn NO-OX-ID®

AN APPLICATION FOR EVERY RAILROAD NEED

NO-OX-ID is different! It protects both mechanically and chemically.

Write for Dearborn NO-OX-ID Bulletins 3007-3009-A for complete information.

Dearborn Chemical Company
Dept. RA, Merchandise Mart Plaza,
Chicago 54, Ill.

Gentlemen:

☐ Please send me NO-OX-ID Bulletins 3007 and 3009-A.
☐ Have a Dearborn Field Engineer call.

Name.....*Title*.....

Railroad.....

Address.....

City.....*Zone*.....*State*.....

Freight Operating Statistics of Large Railways—Selected Items

Region, Road and Year		Miles of road operated	Locomotive Miles: Train miles	Locomotive Miles: Principal and helper	Locomotive Miles: Light	Car Miles: Loaded (thousands)	Car Miles: Per cent loaded	Ton-miles (thousands): Gross excl.locos. & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locomotives: Serviceable: Unstored	Road-locomotives: Serviceable: Stored	Road-locomotives: B.O.	Road-locomotives: Per cent B.O.
New Eng. Region	Boston & Maine	1956	1,561	231,930	236,913	9,050	8,493	65.0	564,557	229,102	64	..	4	5.9
		1955	1,564	245,730	250,467	8,708	9,933	68.4	606,437	240,958	67	1	5	6.8
	N. Y., N. H. & Hfd	1956	1,746	250,077	250,077	19,590	10,520	64.8	683,402	274,567	77	..	12	13.5
		1955	1,746	289,138	289,613	18,326	13,023	69.4	755,646	292,306	90	..	7	7.2
Great Lakes Region	Delaware & Hudson	1956	792	162,328	165,458	3,719	8,116	65.8	560,638	275,912	34	2	7	16.3
		1955	792	179,328	183,195	4,643	9,081	70.3	603,026	305,121	34	..	6	15.0
	Del., Lack. & Western	1956	962	276,026	285,935	21,308	11,138	65.3	746,057	310,673	61	..	2	3.2
		1955	962	280,023	293,875	23,375	12,389	67.9	772,017	327,226	61	..	2	3.2
	Erie	1956	2,225	576,131	581,903	17,175	30,274	65.1	1,888,872	719,852	168	..	3	1.8
		1955	2,224	607,530	612,754	24,855	32,591	68.3	2,031,161	778,608	163	..	1	.6
	Grand Trunk Western	1956	951	249,679	256,270	1,766	7,606	58.6	556,189	218,962	55	..	18	24.7
		1955	952	246,652	255,055	2,014	8,496	63.0	588,860	235,952	56	3	16	21.3
	Lehigh Valley	1956	1,135	198,635	201,400	6,039	9,252	60.6	674,687	302,416	32	..	3	8.6
		1955	1,142	216,003	218,832	6,510	10,452	66.0	731,583	344,476	34	..	1	2.9
	New York Central	1956	10,565	2,089,445	2,125,107	102,658	83,804	57.1	6,135,838	2,548,990	513	38	66	10.7
		1955	10,661	2,545,471	2,582,794	102,675	100,140	62.3	7,110,560	3,174,486	547	29	118	17.0
	New York, Chic. & St. L.	1956	2,154	665,704	684,304	7,113	27,629	61.8	1,985,429	841,603	173	9	22	10.8
		1955	2,154	737,901	766,235	7,493	30,763	66.8	2,123,568	965,700	181	9	20	9.5
	Pitts. & Lake Erie	1956	221	33,362	33,979	....	1,296	51.4	120,420	65,265	13	..	1	7.1
		1955	221	64,546	64,614	....	2,946	69.1	253,532	159,750	13	7	1	4.8
	Wabash	1956	2,381	521,475	522,652	6,072	23,293	62.9	1,606,548	628,469	111	..	1	.9
		1955	2,381	577,130	579,361	6,548	25,348	65.1	1,657,592	628,349	102	..	1	1.0
Central Eastern Region	Baltimore & Ohio	1956	5,910	1,503,659	1,658,795	145,543	56,625	60.9	4,639,746	2,173,135	432	21	89	16.4
		1955	6,072	1,610,479	1,783,221	174,482	65,120	65.2	5,110,918	2,540,975	448	3	94	17.2
	Bessemer & Lake Erie	1956	208	25,628	25,783	20	540	54.9	60,666	35,238	16	..	..	..
		1955	208	62,392	67,935	244	3,470	57.7	427,624	275,961	16	..	..	..
	Central RR Co. of New Jersey	1956	612	131,126	132,108	5,316	4,626	63.5	358,556	187,462	67	..	..	..
		1955	613	120,680	121,379	5,090	4,565	65.6	336,899	170,943	67	..	5	6.9
	Chicago & Eastern Ill.	1956	868	113,344	113,344	2,632	5,036	64.8	364,342	175,074	26	..	3	10.3
		1955	868	120,914	120,914	2,786	5,206	69.7	362,299	179,981	25	..	3	10.7
	Elgin, Joliet & Eastern	1956	236	57,108	57,528	....	1,617	61.1	127,588	65,594	24	14	2	5.0
		1955	236	80,437	80,452	....	2,505	63.9	200,821	108,524	35	3	3	7.3
	Pennsylvania System	1956	9,892	2,655,006	2,825,931	207,565	108,738	61.1	7,947,159	3,524,212	832	..	359	30.1
		1955	9,892	3,047,763	3,276,043	252,014	132,063	65.7	9,524,726	4,577,716	846	38	437	33.1
	Reading	1956	1,303	293,744	297,159	8,200	11,175	61.5	904,920	466,356	162	2	21	11.4
		1955	1,303	312,512	314,598	9,910	11,578	64.4	909,414	479,235	163	3	30	15.3
	Western Maryland	1956	846	133,191	135,980	5,526	4,677	59.8	391,553	208,866	42	..	1	2.3
		1955	846	158,709	164,536	8,702	6,010	62.1	499,513	278,505	37	..	..	..
Pocahontas Region	Chesapeake & Ohio	1956	5,067	1,441,365	1,463,185	43,477	59,197	55.6	5,261,455	2,894,790	317	18	83	13.4
		1955	5,046	1,486,117	1,511,485	44,126	63,276	58.7	5,444,345	3,064,066	386	15	189	32.0
	Norfolk & Western	1956	2,110	686,802	736,189	64,707	30,536	55.9	2,928,087	1,572,822	222	4	21	8.5
		1955	2,104	693,998	740,019	57,911	34,731	58.9	3,214,045	1,773,317	220	19	28	10.5
Southern Region	Atlantic Coast Line	1956	5,283	812,610	812,613	9,576	22,516	58.4	1,692,954	750,766	186	..	7	3.6
		1955	5,278	803,708	803,714	8,567	23,657	61.0	1,662,563	744,570	232	..	9	3.7
	Central of Georgia	1956	1,731	190,874	190,874	1,935	7,209	66.8	508,626	244,697	74	..	2	2.6
		1955	1,731	190,160	190,186	1,984	7,086	67.0	489,751	232,363	75	..	2	2.6
	Gulf, Mobile & Ohio	1956	2,717	270,103	270,103	1,081	13,945	67.1	947,048	441,625	84	..	7	7.7
		1955	2,717	266,929	266,929	212	15,053	71.6	1,003,537	490,094	87	..	4	4.4
	Illinois Central	1956	6,503	1,126,045	1,126,141	31,814	45,468	62.5	3,336,057	1,559,098	321	5	114	25.9
		1955	6,531	1,206,974	1,209,416	35,949	49,823	63.2	3,626,389	1,697,404	329	47	182	28.8
	Louisville & Nashville	1956	4,714	807,900	809,257	12,516	28,198	62.1	2,096,527	1,049,202	164	29	12	5.9
		1955	4,715	890,619	906,157	18,369	33,134	63.6	2,503,175	1,304,624	181	20	23	10.3
	Nash., Chatt. & St. Louis	1956	1,043	156,013	159,067	2,779	4,837	68.1	321,856	149,581	49	..	4	7.5
		1955	1,043	164,091	167,320	3,629	5,285	69.6	345,428	161,823	48	..	5	9.4
	Seaboard Air Line	1956	4,051	580,274	580,274	798	20,955	61.7	1,521,183	689,201	136	..	11	7.5
		1955	4,053	555,957	555,957	780	21,856	64.2	1,550,913	694,534	134	..	12	8.2
	Southern	1956	6,259	853,151	853,211	11,812	38,085	65.9	2,528,410	1,149,468	192	18	8	3.7
		1955	6,264	917,281	917,351	12,957	41,124	68.2	2,645,516	1,206,659	269	..	2	.7
Northwestern Region	Chicago & North Western	1956	7,800	660,176	660,970	6,495	27,694	62.8	2,025,828	830,820	136	3	7	4.8
		1955	7,848	737,946	740,238	9,649	32,804	67.3	2,271,949	1,049,728	140	10	41	21.5
	Chicago Great Western	1956	1,437	133,636	133,636	187	7,449	66.6	522,587	243,281	32	..	..	..
		1955	1,437	134,045	134,045	198	8,014	70.1	532,546	246,843	31	..	2	6.1
	Chic., Milw., St. P. & Pac.	1956	10,633	988,248	1,004,533	18,177	41,973	62.4	2,968,835	1,312,140	289	2	8	2.7
		1955	10,633	1,003,919	1,019,547	23,064	42,199	63.2	2,947,128	1,303,497	259	49	23	6.9
	Chic., St. P., Minn. & Omaha	1956	1,606	150,465	150,465	2,594	5,173	63.0	372,962	163,672	43	..	..	..
		1955	1,606	161,029	162,109	4,120	5,686	69.4	391,697	177,040	58	..	16	21.6
	Duluth, Missabe & Iron Range	1956	569	30,333	30,350	323	635	51.3	54,351	27,196	72	4	6	7.3
		1955	569	177,468	178,339	1,533	8,306	51.3	899,796	549,671	60	2	5	7.5
	Great Northern	1956	8,274	1,123,661	1,131,646	35,793	42,302	67.1	3,025,710	1,424,769	263	66	19	5.5
		1955	8,270	1,163,038	1,170,154	37,786	48,182	65.6	3,622,533	1,808,933	244	93	47	12.2
	Minneap., St. P. & S. Ste. M.	1956	4,171	414,267	417,401	3,134	13,751	62.3	962,862	428,878	84	10	3	3.1
		1955	4,171	384,642	387,019	2,686	14,263	68.5	969,584	468,482	79	11	6	6.3
	Northern Pacific	1956	6,569	897,865	915,599	21,035	35,936	60.2	2,605,780	1,111,809	262	58	31	8.8
		1955	6,570	876,263	894,045	23,031	35,396	65.5	2,509,343	1,121,194	287	35	55	14.6
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1956	13,124	2,440,592	2,518,548	51,136	109,315	62.7	7,548,085	2,731,748	554	47	62	9.4
		1955	13,098	2,757,441	2,889,333	79,712	118,839	62.0	8,400,724	2,991,715	570	8	59	9.3
	Chic., Burl. & Quincy	1956	8,771	1,081,875	1,079,602	22,588	46,396	62.9	3,245,494	1,390,914	206	46	29	10.3
		1955	8,773	1,127,230	1,125,330	29,775	48,420	68.3	3,250,273	1,464,764	207	51	26	9.2
	Chic., Rock I. & Pac.	1956	7,580	983,992	979,495	2,261	36,931	61.6	2,734,294	1,161,780	168	..	7	4.0
		1955	7,904	956,572	958,236	3,843	37,988	63.6	2,754,391	1,178,871	172	..	3	1.7
	Denver & R. G. Wn.	1956	2,155	274,468	296,152	30,009	13,093	67.4	898,640	385,429	81	10	11	10.8
		1955	2,165	298,795	320,854	29,812	14,677	70.5	998,724	468,366	60	30	24	21.1
	Southern Pacific	1956	8,044	2,305,959	2,401,154	163,027	102,999	60.8	7,336,962	2,772,311	692	69	62	7.5
		1955	8,068	2,518,266	2,638,213	270,344	110,748	61.5	7,751,454	2,923,684	725	4	82	10.1
	Union Pacific	1956	9,799	2,346,219	2,407,560	102,267	103,400	59.9	7,218,960	2,695,409	422	49	103	17.9
		1955	9,813	2,451,872	2,510,036	122,451	110,510	64.8	7,435,791	3,034,984	452	104	116	17.3
	Western Pacific	1956	1,190	220,836	234,520	11,385	10,049	67.5	644,390	268,624	47	..	1	2.1
		1955	1,190	242,280	254,106	16,306	10,956	68.9	699,929	297,081	41	..	..	..
Southwestern Region	Kansas City Southern	1956	886	133,759	133,782	354	7,848	68.0	563,027	259,400	26	..	1	3.7
		1955	886	158,612	158,860	240	9,147	67.8	659,344	304,538	26	..	2	7.1
	Louisiana & Arkansas	1956	746	91,725	91,725	109	4,117	63.7	322,403	151,528	15	..	..	..
		1955	753	99,951	99,951	162	4,418	65.5	340,444	161,961	16	..	..	..
	Mo.-Kans.-Texas Lines	1956	3,230	321,093	321,093	3,596	13,277	64.7	883,394	383,510	87	..	..	..
		1955	3,230	358,117	358,117	3,601	15,778	66.7	1,042,254	474,392	88	..	..	..
	Missouri Pacific	1956	9,701	1,153,049	1,153,049	10,521	51,368	65.0	3,597,344	1,639,558	347	..	41	10.6
		1955	9,702	1,330,224	1,330,224	11,615	56,575	65.5	3,995,294	1,833,910	331	66	41	9.4
	Texas & Pacific	1956	1,822	274,003	274,003	3,820	13,514	62.5	976,673	372,158	59	..	2	3.3
		1955	1,822	324,131	324,131	3,537	14,844	62.8	1,068,536	397,537	62	..	1	1.6
	St. Louis-San Francisco	1956	4,573	631,247	631,247	6,001	23,783	66.8	1,600,896	728,798	102	..	4	3.8
		1955	4,573	582,782	582,782	5,637	23,573	68.5	1,556,620	713,110	126	..	7	5.3
	St. Louis Southw. Lines	1956	1,554	321,989	322,027	1,538	13,961	72.0	869,117	388,507	54	..	1	1.8
		1955	1,554	300,147	300,147	1,447	15,285	72.7	932,861	417,002	56	1	11	16.2
	Texas & New Orleans	1956	4,287	714,682	714,682	290	27,548	61.0	1,973,625	841,256	150	..	1	.7
		1955	4,302	715,963	715,963	1,528	28,037	63.0	1,949,178	833,129	139	..	3	2.1

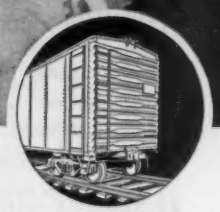
For the month of July 1956 Compared with July 1955

Region	Road	Year	Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m. per train-hr. excl. locos and tenders	G.t.m. per train-mi. excl. locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng.	Boston & Maine	1956	1,886	8,335	10,221	2.4	37,287	2,440	990	27.0	733	41.8	4,734	15.3	128.1
		1955	2,098	9,923	12,021	3.6	37,000	2,472	982	24.3	643	38.8	4,970	15.0	130.0
	N. Y., N. H. & Htfd	1956	2,416	13,637	16,053	3.0	41,129	2,733	1,098	26.1	517	30.6	5,073	15.1	121.0
		1955	2,040	20,575	22,615	1.9	38,601	2,613	1,011	22.4	417	26.8	5,400	14.8	129.6
Great Lakes	Delaware & Hudson	1956	2,986	6,358	9,344	7.0	59,052	3,469	1,707	34.0	1,057	47.2	11,238	17.1	137.2
		1955	3,265	5,697	8,962	4.2	61,016	3,381	1,711	33.6	1,115	47.2	12,428	18.1	160.8
	Del., Lack. & Western	1956	4,547	9,394	13,941	3.6	47,204	2,744	1,143	27.9	689	37.8	10,418	17.5	175.9
		1955	4,449	11,004	15,453	3.5	48,269	2,817	1,194	26.4	696	38.8	10,973	17.5	180.0
	Erie	1956	7,176	16,602	23,778	3.1	64,006	3,315	1,263	23.8	930	60.1	10,436	19.5	125.4
		1955	7,591	18,690	26,281	4.0	65,235	3,374	1,293	23.9	968	59.3	11,293	19.5	139.4
	Grand Trunk Western	1956	4,596	8,938	13,534	9.0	48,588	2,249	885	28.8	544	32.3	7,427	21.8	123.5
		1955	3,874	9,963	13,837	11.7	48,974	2,402	962	27.8	553	31.6	7,995	20.5	119.3
	Lehigh Valley	1956	6,521	6,990	13,511	5.8	71,722	3,420	1,533	32.7	700	35.3	8,595	21.1	207.9
		1955	8,869	7,654	16,523	3.8	68,603	3,463	1,631	33.0	667	30.6	9,730	20.3	221.5
	New York Central	1956	50,564	80,254	130,818	3.4	48,774	2,991	1,242	30.4	600	34.6	7,783	16.6	128.4
		1955	54,341	93,730	148,071	5.1	48,026	2,837	1,267	31.7	688	34.9	9,605	17.2	136.0
	New York, Chic. & St. L.	1956	8,479	13,571	22,050	6.0	53,504	3,047	1,291	30.5	1,132	60.2	12,604	17.9	121.0
		1955	5,594	18,153	23,747	7.4	50,481	2,943	1,338	31.4	1,291	61.5	14,462	17.5	132.4
	Pitts. & Lake Erie	1956	2,554	4,740	7,294	9.8	57,017	3,622	1,963	50.4	216	8.4	9,526	15.8	80.0
		1955	3,050	9,177	12,227	4.2	61,210	3,944	2,485	54.2	430	11.5	23,318	15.6	108.4
	Wabash	1956	9,362	10,326	19,688	5.0	66,637	3,096	1,211	27.0	1,047	61.7	8,515	21.6	160.7
		1955	8,097	10,730	18,827	7.7	62,555	2,888	1,095	24.8	1,065	67.3	8,513	21.8	194.6
Central Eastern	Baltimore & Ohio	1956	47,705	48,879	96,584	5.8	48,474	3,151	1,476	38.4	706	30.2	11,861	15.7	113.0
		1955	43,678	49,529	93,207	11.1	48,336	3,228	1,605	39.0	891	35.0	13,499	15.2	120.1
	Bessemer & Lake Erie	1956	6,189	995	7,184	5.7	42,424	2,486	1,444	65.3	167	4.7	5,465	17.9	56.0
		1955	3,470	1,344	4,814	14.4	107,551	6,986	4,509	79.5	1,612	35.1	42,798	15.7	148.2
	Central RR Co. of New Jersey	1956	2,547	10,577	13,124	7.8	39,046	2,850	1,490	40.5	467	18.2	9,881	14.3	90.5
		1955	2,907	9,732	12,639	7.1	41,251	2,909	1,476	37.4	417	17.0	8,996	14.8	81.0
	Chicago & Eastern Ill.	1956	2,682	3,624	6,306	8.1	51,702	3,234	1,554	34.8	882	39.1	6,506	16.1	133.6
		1955	2,254	2,531	4,785	7.1	48,501	3,013	1,497	34.6	1,028	42.7	6,689	16.2	147.5
	Elgin, Joliet & Eastern	1956	6,594	8,076	14,670	4.5	19,111	2,343	1,205	40.6	135	5.5	8,966	8.6	61.4
		1955	7,117	9,591	16,708	5.6	20,116	2,622	1,417	43.3	212	7.6	14,834	8.1	83.1
	Pennsylvania System	1956	94,207	97,647	191,854	7.5	52,012	3,067	1,360	32.4	590	29.8	11,493	17.4	89.5
		1955	103,061	95,026	198,087	11.0	53,469	3,231	1,553	34.7	734	32.2	14,928	17.1	94.1
	Reading	1956	12,754	18,712	31,466	4.1	48,201	3,081	1,588	41.7	485	18.9	11,545	15.6	64.0
		1955	11,303	15,850	27,153	5.2	45,310	2,912	1,534	41.4	550	20.6	11,864	15.6	64.4
	Western Maryland	1956	5,474	5,019	10,493	3.9	44,882	3,015	1,609	44.7	711	26.6	7,964	15.3	117.5
		1955	3,882	4,862	8,744	4.0	47,164	3,205	1,787	46.3	1,099	38.2	10,619	15.0	166.5
Pocahontas	Chesapeake & Ohio	1956	52,937	31,480	84,417	1.2	70,161	3,680	2,025	48.9	1,094	40.2	18,429	19.2	86.0
		1955	47,475	36,656	84,131	2.3	69,261	3,691	2,077	48.4	1,157	40.7	19,588	18.9	91.5
	Norfolk & Western	1956	38,140	9,549	47,689	1.2	76,036	4,366	2,345	51.5	1,129	39.2	24,046	17.8	113.3
		1955	29,428	9,619	39,047	1.8	80,875	4,773	2,634	51.1	1,424	47.3	27,188	17.5	104.4
Southern	Atlantic Coast Line	1956	18,091	16,563	34,654	4.9	41,457	2,091	927	33.3	716	36.7	4,584	19.9	146.8
		1955	18,100	14,431	32,531	4.1	41,068	2,079	931	31.5	742	38.7	4,551	19.9	118.4
	Central of Georgia	1956	2,413	6,521	8,934	3.3	47,522	2,670	1,284	33.9	879	38.8	4,560	17.8	88.7
		1955	2,786	6,427	9,213	3.9	46,212	2,586	1,227	32.8	823	37.4	4,330	17.9	87.3
	Gulf, Mobile & Ohio	1956	4,827	9,729	14,556	6.4	67,033	3,509	1,636	31.7	958	45.0	5,243	19.1	104.7
		1955	5,066	9,573	14,639	3.3	72,317	3,763	1,838	32.6	1,087	46.6	5,819	19.2	104.5
	Illinois Central	1956	22,995	26,693	49,688	2.2	51,668	2,999	1,402	34.3	992	46.3	7,734	17.4	90.5
		1955	24,889	26,340	51,229	2.3	51,001	3,047	1,426	34.1	1,074	49.9	8,384	17.0	77.2
	Louisville & Nashville	1956	28,019	12,116	40,135	5.1	46,364	2,602	1,302	37.2	865	37.4	7,180	17.9	132.3
		1955	24,285	13,228	37,513	6.0	48,095	2,819	1,469	39.4	1,042	41.6	8,926	17.1	142.2
	Nash., Chatt. & St. Louis	1956	3,517	3,488	7,005	5.4	40,985	2,065	960	30.9	675	32.1	4,626	19.9	109.6
		1955	3,774	3,715	7,489	5.0	40,246	2,108	988	30.6	707	33.1	5,005	19.1	111.9
	Seaboard Air Line	1956	11,729	14,152	25,881	2.9	48,233	2,674	1,211	32.9	893	44.0	5,488	18.4	151.3
		1955	11,733	13,006	24,739	2.8	52,648	2,823	1,264	31.8	896	43.9	5,528	18.9	142.5
	Southern	1956	15,818	23,242	39,060	3.8	50,988	2,974	1,352	30.2	956	48.1	5,924	17.2	149.1
		1955	16,412	25,464	41,876	4.0	50,523	2,898	1,322	29.3	947	47.3	6,214	17.5	120.4
Northwestern	Chicago & North Western	1956	18,616	30,129	48,745	4.4	52,788	3,119	1,279	30.0	569	30.2	3,436	17.2	160.4
		1955	17,223	29,996	47,219	4.8	55,444	3,139	1,450	32.0	713	33.1	4,315	18.0	137.1
	Chicago Great Western	1956	1,587	4,317	5,904	3.0	74,390	3,914	1,822	32.7	1,355	62.3	5,461	19.0	140.8
		1955	1,364	5,014	6,378	2.9	75,144	3,981	1,845	30.8	1,268	58.7	5,541	18.9	136.3
	Chic., Milw., St. P. & Pac.	1956	30,467	30,796	61,263	7.5	57,305	3,017	1,333	31.3	682	35.0	3,981	19.1	120.9
		1955	29,050	32,324	61,374	6.4	56,076	2,955	1,307	30.9	681	34.9	3,955	19.1	109.8
	Chic., St. P., Minn. & Omaha	1956	1,042	7,951	8,993	2.2	33,989	2,494	1,095	31.6	580	29.1	3,288	13.7	127.3
		1955	1,163	8,298	9,461	3.1	34,338	2,460	1,112	31.1	595	27.5	3,556	14.1	80.7
	Duluth, Missabe & Iron Range	1956	14,165	684	14,849	2.1	29,158	1,905	953	42.8	60	2.7	1,542	16.3	15.1
		1955	13,354	794	14,148	1.9	87,991	5,432	3,318	66.2	1,235	36.4	31,162	17.4	101.1
	Great Northern	1956	22,692	24,532	47,224	3.1	53,682	2,725	1,283	33.7	964	42.6	5,555	19.9	116.5
		1955	20,766	21,731	42,497	3.0	56,149	3,161	1,579	37.5	1,386	56.2	7,056	18.0	106.1
	Minneap., St. P. & S. Ste. M.	1956	7,057	9,486	16,543	5.5	48,453	2,341	1,043	31.2	850	43.7	3,317	20.8	153.3
		1955	6,543	8,204	14,747	7.4	51,972	2,555	1,234	32.8	1,003	44.6	3,623	20.6	142.0
	Northern Pacific	1956	18,945	22,659	41,604	5.8	56,822	2,913	1,243	30.9	922	49.5	5,460	19.6	98.8
		1955	17,716	18,515	36,231	5.8	55,405	2,880	1,287	31.7	989	47.7	5,505	19.3	84.3
Central Western	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1956	58,482	34,600	93,082	3.3	70,456	3,101	1,122	25.0	924	59.0	6,714	22.8	133.6
		1955	54,059	37,923	91,982	3.4	69,305	3,063	1,091	25.2	1,036	66.4	7,368	22.7	159.2
	Chic., Burl. & Quincy	1956	19,798	24,900	44,698	4.0	60,114	3,007	1,289	30.0	1,029	54.6	5,116	20.0	134.0
		1955	20,903	23,489	44,392	3.0	57,457	2,891	1,303	30.3	1,077	52.1	5,386	19.9	137.9
	Chic., Rock I. & Pac.	1956	12,450	20,934	33,384	5.6	56,454	2,785	1,183	31.5	1,078	55.6	4,944	20.3	189.4
		1955	11,607	22,694	34,301	4.6	55,899	2,890	1,237	31.0	1,110	56.3	4,811	19.4	186.1
	Denver & R. G. Wn.	1956	7,713	6,997	14,710	4.2	63,661	3,284	1,408	29.4	867	43.7	5,769	19.4	112.4
		1955	7,880	8,424	16,304	3.5	64,886	3,353	1,572	31.9	1,022	45.4	6,979	19.4	101.1
	Southern Pacific	1956	30,543	50,326	80,869	2.1	64,698	3,225	1,219	26.9	1,097	67.1	11,118	20.3	110.2
		1955	29,989	50,138	80,127	1.3	57,425	3,121	1,177	26.4	1,193	73.5	11,690	18.7	124.8
	Union Pacific	1956	32,970	40,391	73,361	2.1	78,345	3,100	1,158	26.1	1,264	81.0	8,873	25.5	145.5
		1955	29,371	36,709	66,180	2.3	77,705	3,054	1,246	27.5	1,495	84.1	9,977	25.6	129.2
	Western Pacific	1956	2,365	3,817	6,182	1.9	72,936	2,931	1,222	26.7	1,267	70.2	7,282	25.0	171.8
		1955	2,133	3,415	5,548	2.2	72,644	2,905	1,233	27.1	1,490	79.8	8,053	25.1	220.3
Southwestern	Kansas City Southern	1956	1,395	6,183	7,578	2.3	82,908	4,214	1,942	33.1	1,117	49.7	9,444	19.7	198.5
		1955	1,141	6,576	7,717	2.4	87,737	4,178	1,930	33.3	1,319	58.4	11,088	21.1	200.3
	Louisiana & Arkansas	1956	1,559	3,475	5,034	6.3	67,717	3,518	1,653	36.8	964	41.1	6,552	19.3	212.8
		1955	1,162	3,153	4,315	6.4	66,337	3,417	1,626	36.7	1,199	49.9	6,938	19.5	226.0
	Mo.-Kans.-Texas Lines	1956	3,670	6,335	10,005	7.6	57,034	2,758	1,197	28.9	1,112	59.5	3,830	20.7	127.3
		1955	4,121	8,169	12,290	10.0	58,554	2,919	1,328	30.1	1,231	61.4	4,738	20.1	144.8
	Missouri Pacific	1956	22,237	31,386	53,623	4.5	60,777	3,136	1,429	31.9	958	46.2	5,452	19.5	104.7
		1955	23,850	28,440	52,290	3.0	63,157	3,027	1,389	32.4	1,116	52.5	6,098	21.0	103.9
	Texas & Pacific	1956	2,590	6,425	9,015	2.5	77,618	3,575	1,362	27.5	1,297	75.3	6,589	21.8	156.0
		1955	2,798	6,474	9,272	2.6	75,260	3,304	1,229	26.8	1,333	79.2	7,038	22.8	176.3
	St. Louis-San Francisco	1956	12,078	12,586	24,664	3.1	51,477	2,544	1,158	30.6	961	46.9	5,141	20.3	207.0
		1955	11,077	11,645	22,722	3.7	51,259	2,677	1,227	30.3	1,010	48.8	5,030	19.2	155.0
	St. Louis Southw. Lines	1956	1,736	4,341	6,077	1.0	54,565	2,704	1,209	27.8	1,809	90.3	8,065	20.2	199.4
		1955	1,895	4,726	6,621	1.6	60,670	3,113	1,391	27.3	2,012	101.5	8,656	19.5	152.5
	Texas & New Orleans	1956	5,127	18,084	23,211	1.7	56,619	2,779	1,184	30.5	1,254	67.3	6,330	20.5	166.6
		1955	5,225	16,730	21,955	2.0	57,218	2,743	1,172	29.7	1,187	63.4	6,247	21.0	172.7

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

a RAILWAY AGE Workbook Page

This is the tenth in a series of advertisements about the people of Standard.



Improved Dreadnaught Ends

Dedicated to Service

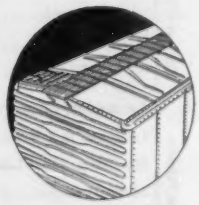
. . . and devoted to the outdoors

This is Bill Lindersmith.

Bill grew up in sight of Puget Sound. And like so many men of the great Northwest, he fishes and sails enthusiastically . . . is an all-'round outdoorsman.

Bill Lindersmith joined the Standard organization just recently—he brought with him a long, rich experience in car building. He's putting that experience to work now to deliver Standard service to the railroads between El Paso and Seattle.

The first responsibility of every man on the Standard team is service. Whether your order is for one car or hundreds—for new car parts or replacement on existing equipment—you can depend on Standard to get cars on the road, paying their way.



Diagonal Panel Roofs

9 out of 10 house cars now in operation on America's railroads are equipped with Standard Ends and Roofs.

LEADER TO PROGRESS
P R I
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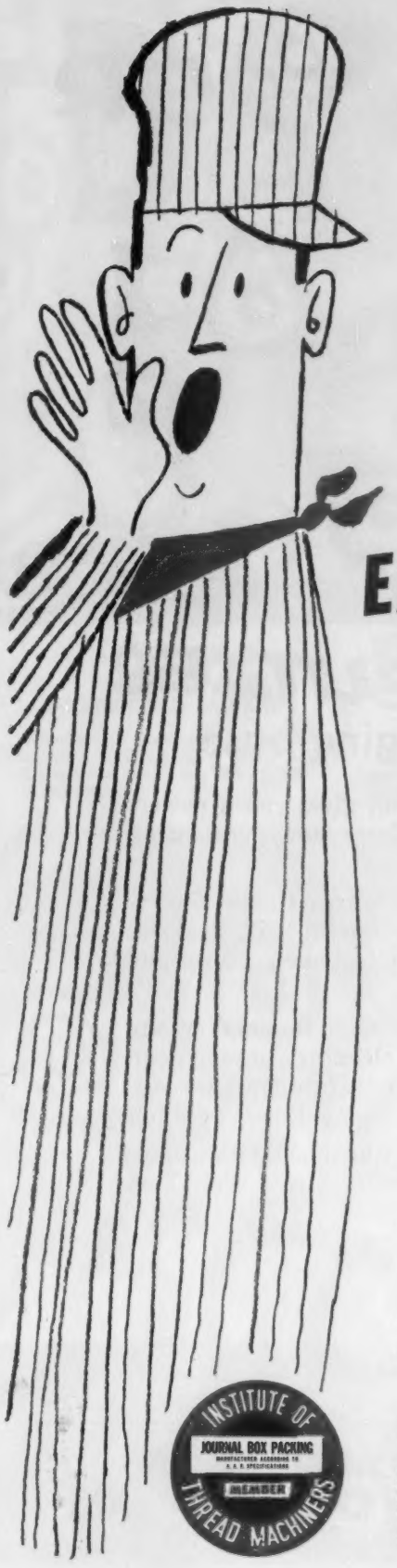
Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

Standard Railway Equipment Manufacturing Company, (Canada) Ltd. Sun Life Building, Montreal



Proved Service and Economy versus Expensive Substitutes

Simple Arithmetic

2,000,000	Freight cars packed with unproved substitutes such as pads, etc. @ an average price of $50.00 per car set.	$100,000,000.
2,000,000	Freight cars packed with approved A. A. R. Journal Box Packing @ approximately $4.90 per car set.	$ 9,800,000.
	Difference in savings to Railroads.	$ 90,200,000.

This is real economy.

There is no economical replacement for A. A. R. Approved Journal Box Packing.

Think this over and avoid being stampeded into exorbitant expense for unproved gadgets.

INSTITUTE OF THREAD MACHINERS, INC.

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Meyer Burstein & Sons, Neenah, Wisconsin
Dallas Waste Mills, Dallas, Texas
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John J. McGrath, Inc., Philadelphia, Pa.
Miller Waste Mills, Inc., Winona, Minn.
National Waste Company, New York, N. Y.
O'Neill Brothers, Inc., Philadelphia, Pa.
The Pittsburgh Waste Co., Inc., Swissvale, Pa.
Riverside Mills, Augusta, Ga.
Royal Manufacturing Company, Perth Amboy, N. J.
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Twin City Textile Mills Waste Co., St. Paul, Minn.

How Oakite Steam Gun BLITZES grime from diesel engine base

The Oakite GRIME-BLITZING Steam Gun gives you a power-packed mixture of steam heat, steam force and penetrating cleaning compound.

Hooked up to your own steam supply, the sturdy Oakite Steam-Detergent Gun cuts clean-up and rinsing time in half. Removes even the heaviest soils with ease from complicated structures and hard-to-get-at-places.

You can use the Oakite Steam-Detergent Gun to simplify and speed up other shop maintenance jobs like cleaning running gear, traction motors, trucks, locomotive frames (before fracture testing). And you can use the Gun for paint stripping. Does a *good* job.

You can get an in-shop demonstration without obligation. Just drop a line to Oakite Products, Inc., 46 Rector Street, New York 6, N. Y.

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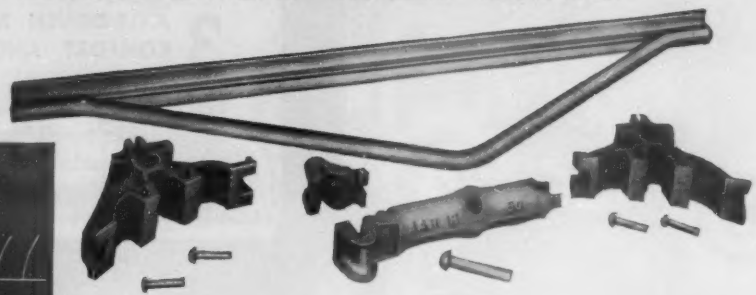
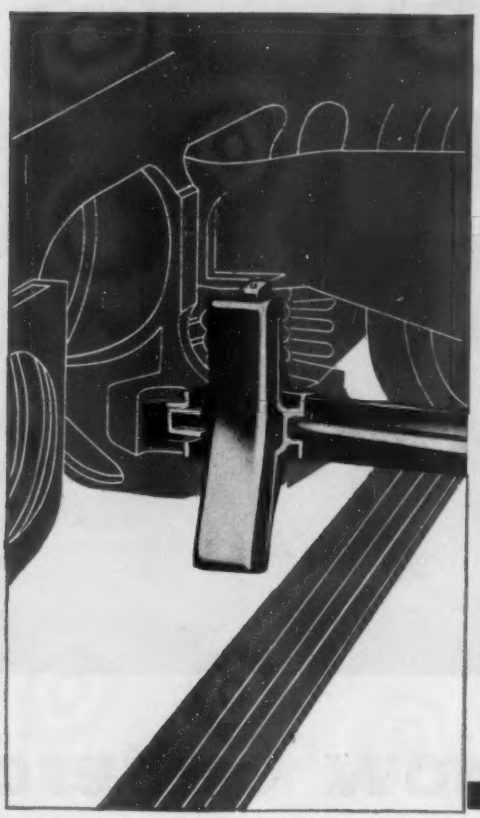
SOLID TRUSS BRAKE BEAMS

A RECOGNIZED STANDARD FOR MORE THAN 30 YEARS

Whether for Conventional Hanging or for UNIT TRUCKS Davis Solid Truss Brake Beams are DECISIVELY SUPERIOR.





ANY PART RENEWABLE
Without Disturbing the Truss!

OTHER IMPORTANT FEATURES:

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- No Threaded Rods
- Interchangeable Right and Left Brake Heads Are Easily Applied without Dismantling Truss.

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BRAKE BEAM COMPANY

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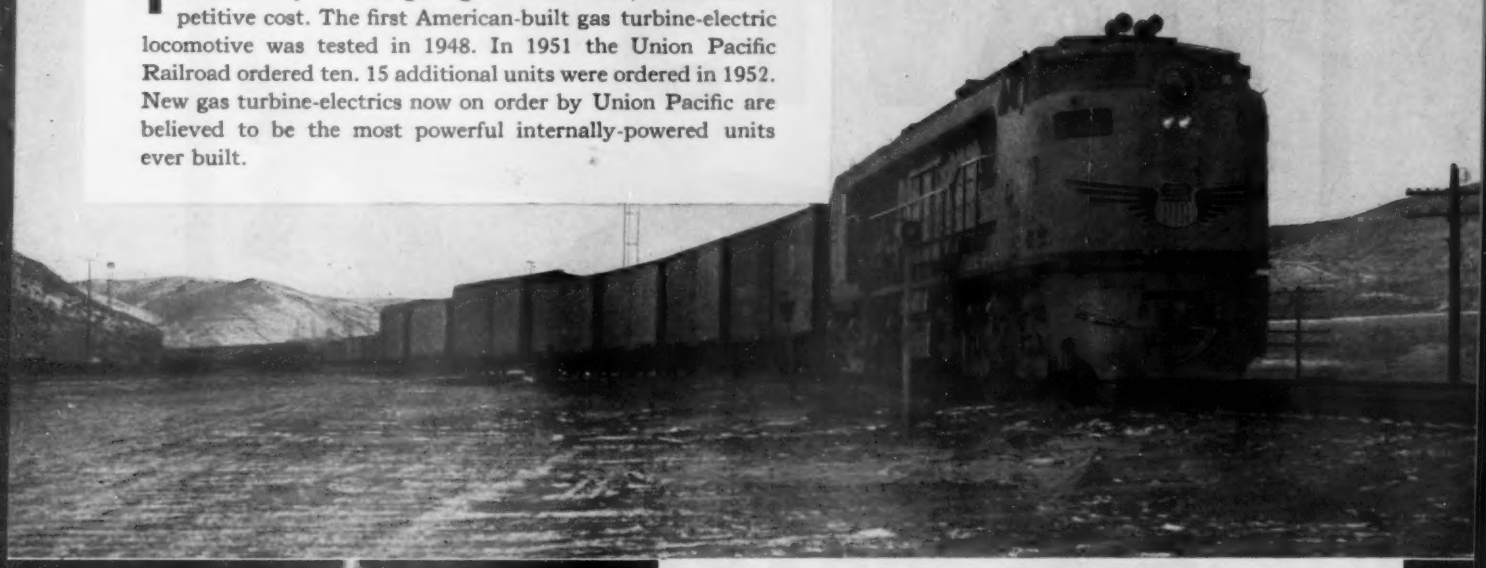
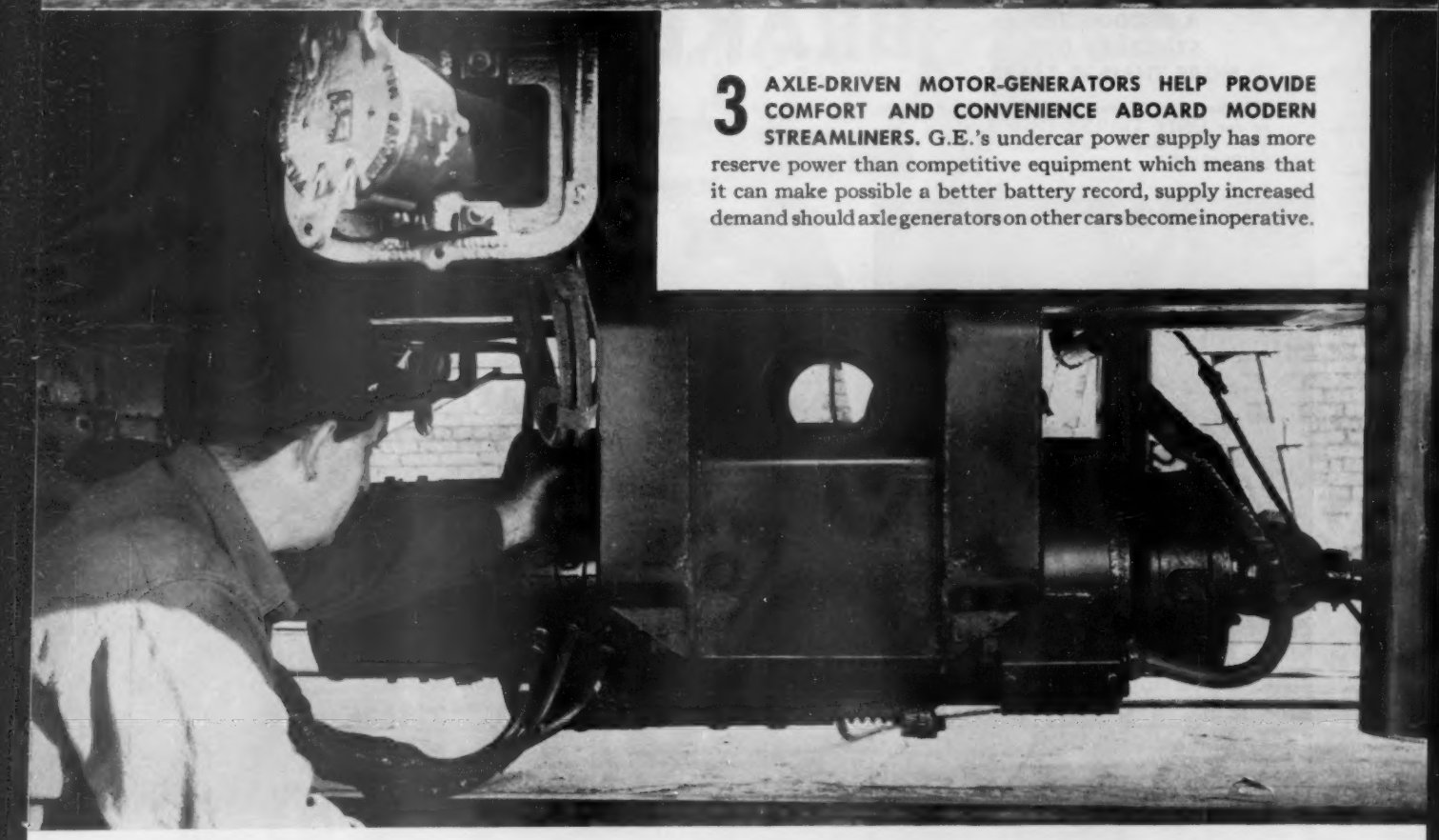
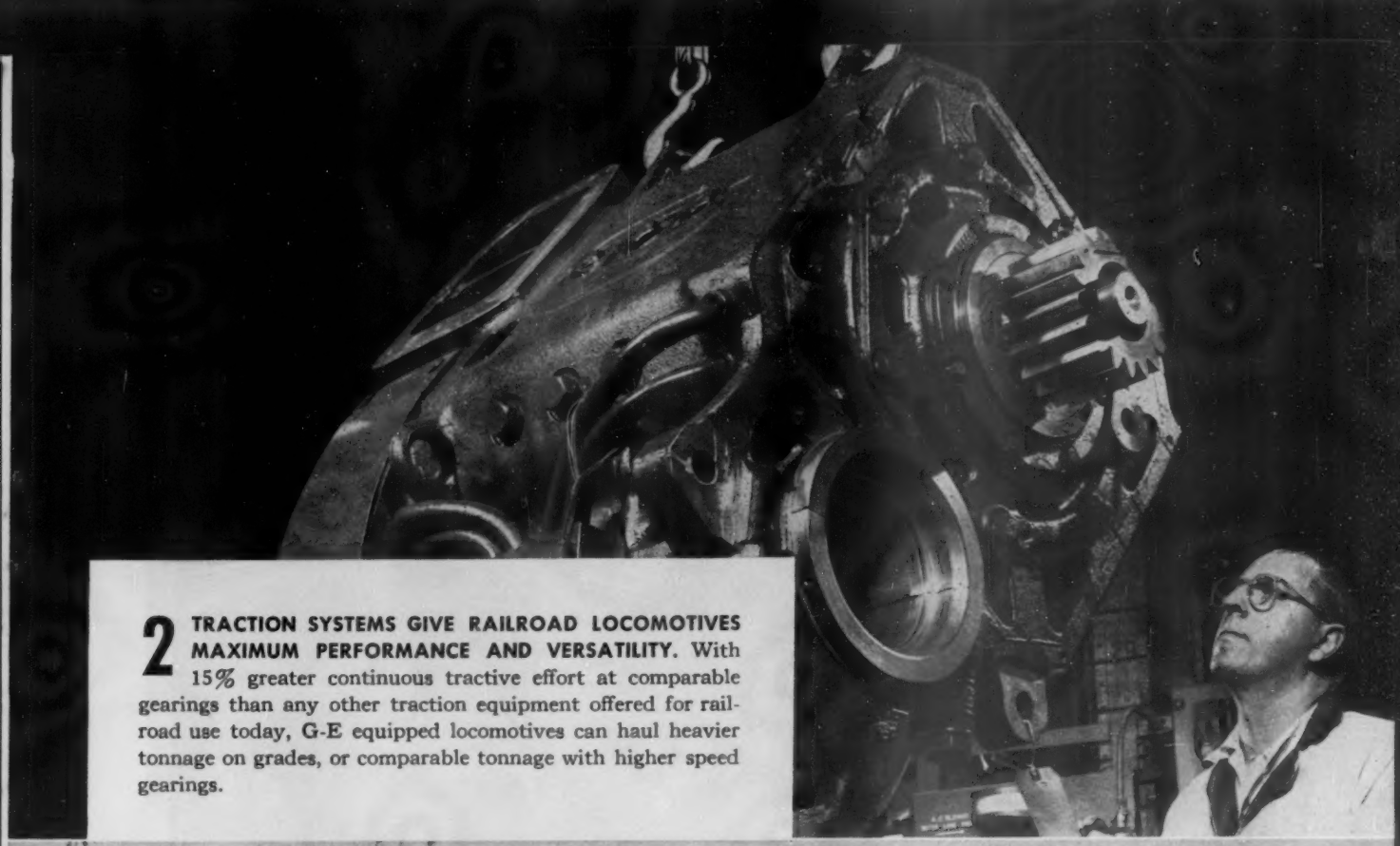
1 GAS TURBINE-ELECTRICS BRING NEW POWER TO THE RAILS. They haul long freight trains faster, and at competitive cost. The first American-built gas turbine-electric locomotive was tested in 1948. In 1951 the Union Pacific Railroad ordered ten. 15 additional units were ordered in 1952. New gas turbine-electrics now on order by Union Pacific are believed to be the most powerful internally-powered units ever built.





3 AXLE-DRIVEN MOTOR-GENERATORS HELP PROVIDE COMFORT AND CONVENIENCE ABOARD MODERN STREAMLINERS. G.E.'s undercar power supply has more reserve power than competitive equipment which means that it can make possible a better battery record, supply increased demand should axle generators on other cars become inoperative.

Four Examples of How General Railroad Progress with Electrical



2 TRACTION SYSTEMS GIVE RAILROAD LOCOMOTIVES MAXIMUM PERFORMANCE AND VERSATILITY. With 15% greater continuous tractive effort at comparable gearings than any other traction equipment offered for railroad use today, G-E equipped locomotives can haul heavier tonnage on grades, or comparable tonnage with higher speed gearings.

4 NEW RECTIFIER LOCOMOTIVES PROVIDE SPEED AND POWER FOR KEEPING FAST FREIGHT AND PASSENGER SCHEDULES. In 1895, G.E. put the first mainline electric in service on a major railroad. Since that time, there has been continued progress in railroad electrification. Today this progress is exemplified by G.E.'s rectifier-electric locomotives now operating on the New Haven Railroad.

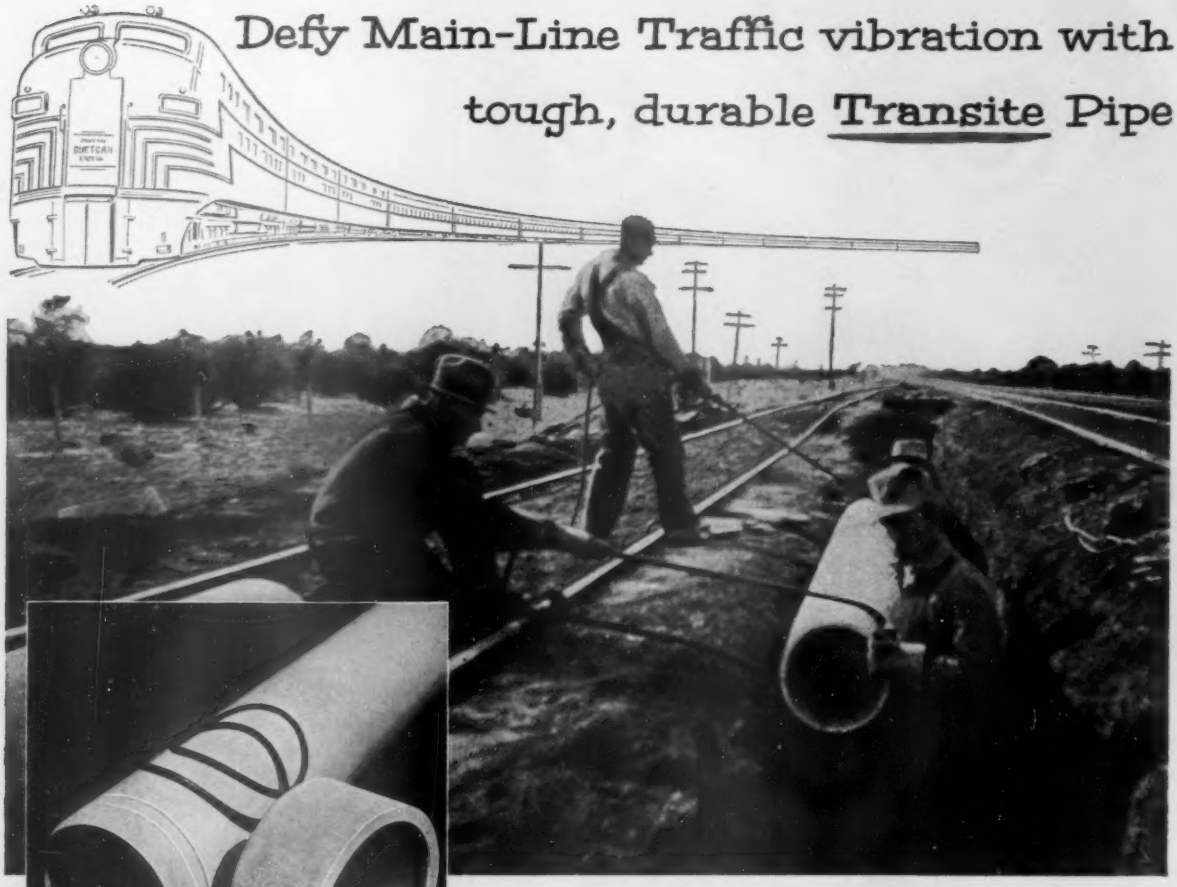
Electric Promotes Pioneering

For more information, contact your G-E Apparatus Sales representative, or write Section 135-7A, General Electric Company, Locomotive and Car Equipment Department, Erie, Pa.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Defy Main-Line Traffic vibration with tough, durable Transite Pipe



Ring-Tite's rubber sealing rings are compressed and locked securely into position. This provides lasting tightness and resiliency . . . prevents leakage with its danger of undermining the pipe bedding.

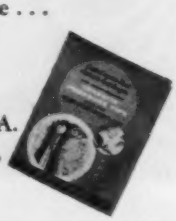
Transite asbestos-cement Pipe is quickly and easily assembled.

...and its tight, flexible Ring-Tite Coupling

THE combination of Transite® Pressure Pipe and Ring-Tite® Couplings give lasting durability under rugged conditions, even where shock and vibration are a problem.

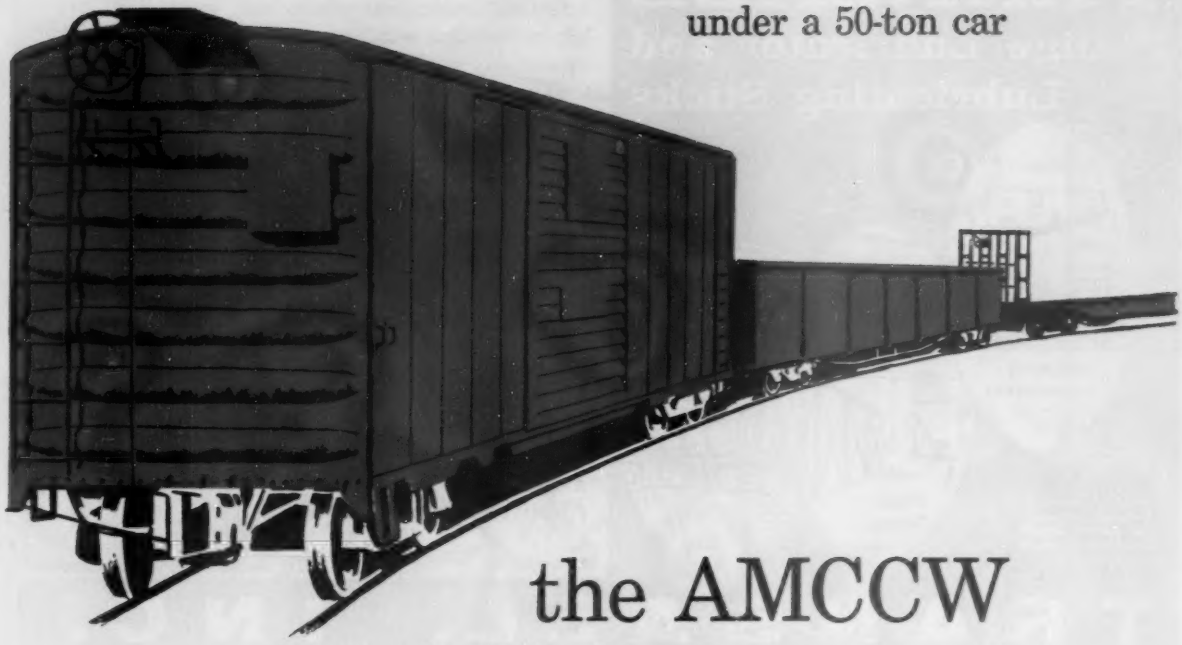
Railroads specify Transite for its low installation cost, low operating cost, and low maintenance cost. Quick assembly of sections with Ring-Tite Couplings gets more pipe laid per day. Deflections up to 5° at each joint permit laying pipe around curves without special fittings. Full flow capacity is always maintained by the smooth interior and resistance to corrosion of Transite . . . keeping pumping costs low.

For further information on how to save money with Transite Pressure Pipe and Ring-Tite Couplings, send for Booklet TR160-A. Write to Johns-Manville, Box 14, New York 16, N. Y. In Canada, Port Credit, Ontario.



Johns-Manville TRANSITE PRESSURE PIPE
WITH THE RING-TITE® COUPLING

under a 50-ton car



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The heavier flange and improved brackets designed into the AMCCW chilled car wheel approved by the AAR in 1950 makes it an outstanding performer under 40- and 50-ton freight cars.

This wheel is high in safety performance as measured by ICC records throughout the country for all types of freight car service—over 160 million car miles per wheel failure in 1955, the latest year for which complete figures are available.

The AMCCW chilled car wheel is low in cost, high in performance and is immediately available from 30 plants in the U.S. and Canada.

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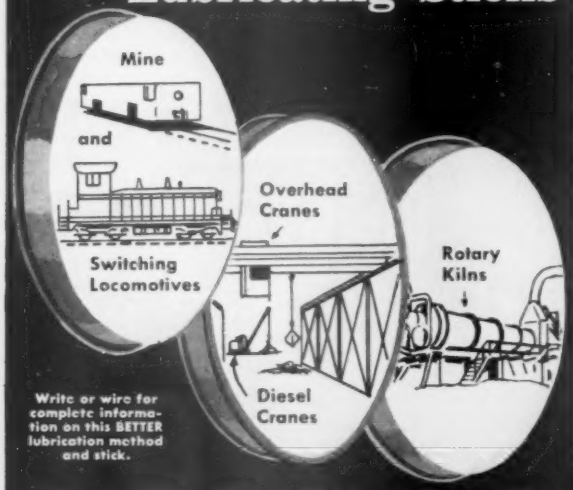
On All Rolling Equipment

Lower Maintenance Cost . . . Greater Wheel Life

TRANSALL®

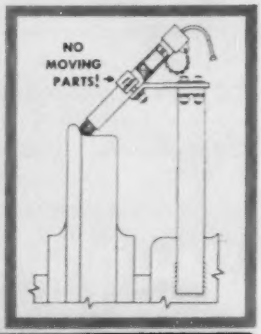
Flange Lubricator* and Lubricating Sticks*



Write or wire for complete information on this BETTER lubrication method and stick.

Effective lubrication where you want it . . . *dry* lubrication that won't creep, cause slippage or pick up abrasive sand or dust . . . *trouble-free* lubrication that increases horsepower hours in service . . . cuts wheel-flange maintenance and downtime costs as much as 50%!!

Transall's *square,dry* lubricating stick, scientifically compounded and service tested over a long period of time for safe, effective lubrication, will not rotate in Transall's adjustable lubricator barrel. You get constant lubrication over the entire wear area. Simply installed and easily maintained, Transall® Flange Lubricator* and Sticks* are your most economical buy for safe, fully effective wheel maintenance.



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FOR TRUCK FLEETS

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KIM HOTSTART keeps Diesel engines warm between runs; keeps Gasoline engines warm when trucks are stored at night. KIM plugs into the electric circuit, draws off cold water from the engine, heats and circulates it through the engine. KIM licks cold weather damage to engines; gives quick, easy starts; reduces engine wear; ends service tie-ups and high repair bills.

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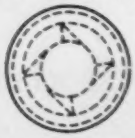
Lewis sealtite car bolts

"Wood engineered" for a smooth level-with-the-surface moisture tight seal without countersinking . . . Sealtite fins bear against wood on a radial plane to prevent turning when nuts are set. Available in Hot-Dip Galvanized finish for "Long Life Economy," in black for low first cost. Call, write or wire for sample prices.

Bolt available with Loktite Nut No. 2 or std. sq. (shown) and hexagon nuts.



Cross section of head from above, showing fins, bevel and shank.

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who called the railroads a "monopoly"??

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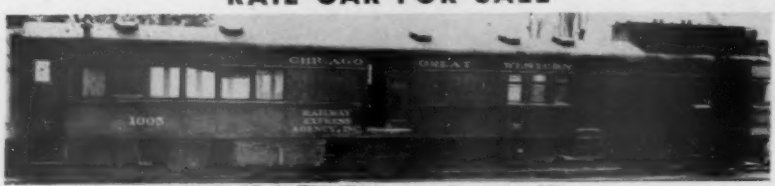

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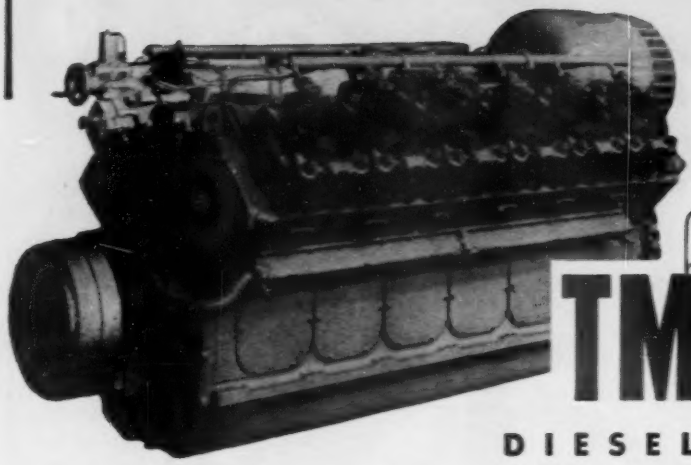

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(Adbook of the Railways, too)

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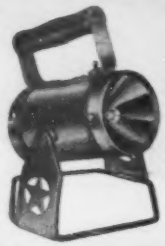

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ROLLER
Reduces wear and provides easy lid operation.

HAIRPIN
Temporary means of holding the spring in position for application of lid to Journal Box.

SPRING
Torsion type, enclosed. Assures tight assembly with lid closed or open.

BALL AND SOCKET JOINT
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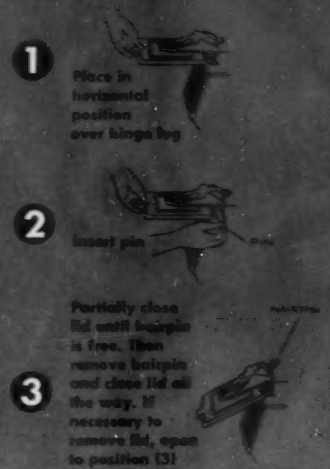
BRIDGE
Connects housing and cover. Securely welded in place.

HOUSING
MALLEABLE IRON CASTING
with ample hinge pin bearing area.

COVER
Reinforced pressing, flanged four sides. Provides rigidity and tight fit against journal box face.

Easy to Apply . . .
No Tools Required



1. Place in horizontal position over hinge lug
2. Insert pin
3. Partially close lid until hairpin is free. Then remove hairpin and close lid all the way. If necessary to remove lid, open to position (3) to insert hairpin, lift to position (2) to remove hinge pin and lift off lid.

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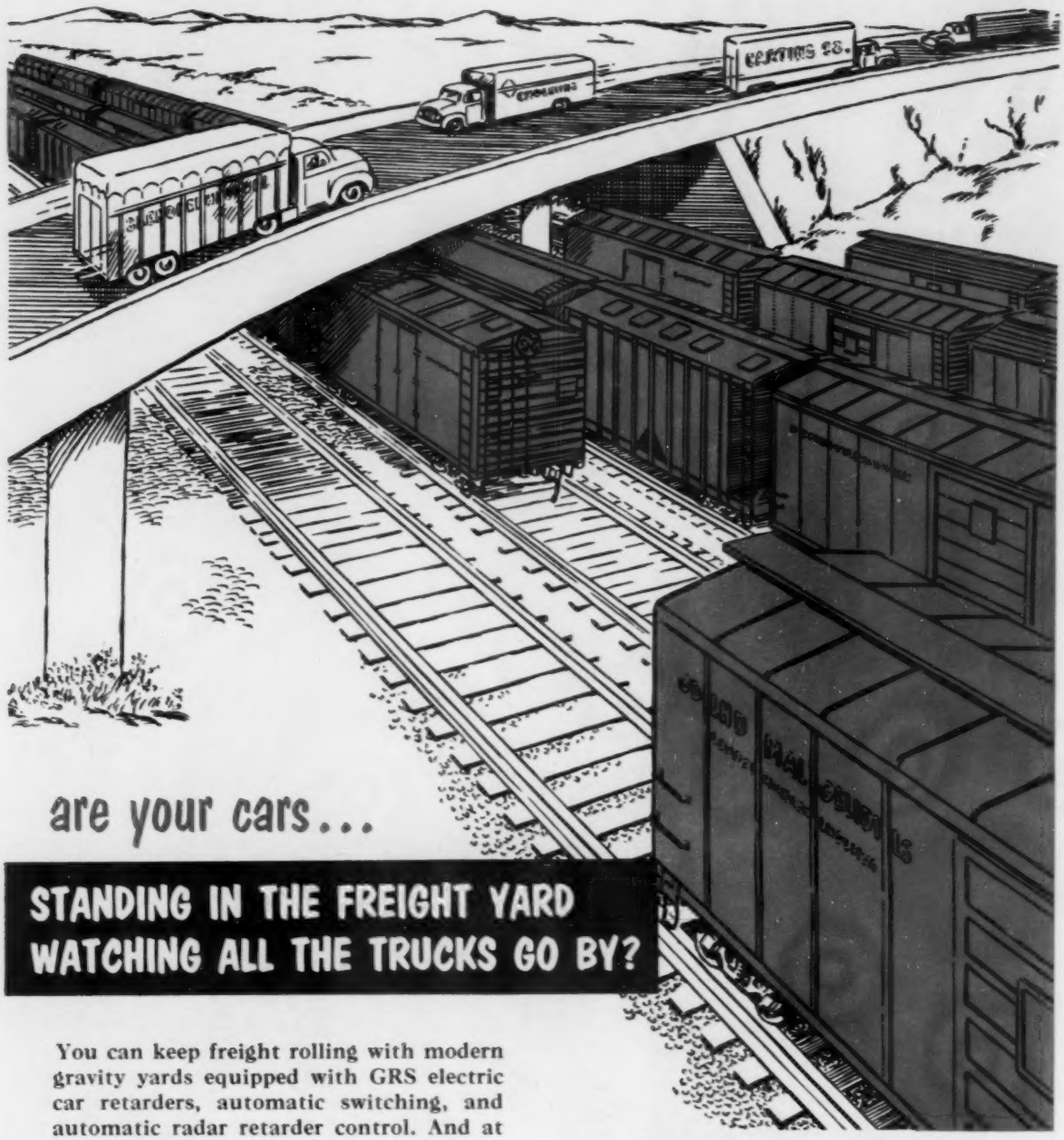

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